

State of California  
The Resources Agency

DEPARTMENT OF WATER RESOURCES  
Division of Operations and Maintenance

# STATE WATER PROJECT OPERATIONS DATA

For the month of:  
**November 2002**

**Gray Davis**  
Governor  
State of California

**Mary D. Nichols**  
Secretary for Resources  
The Resources Agency

**Thomas M. Hannigan**  
Director  
Department of Water Resource

State of California  
**GRAY DAVIS, Governor**

The Resources Agency  
**MARY D. NICHOLS, Secretary for Resources**

Department of Water Resources  
**THOMAS M. HANNIGAN, Director**

Department of Water Resources  
**STEVE MACAULAY, Chief Deputy Director**

TOM GLOVER  
Deputy Director

JONAS M. MINTON  
Deputy Director

#### DIVISION OF OPERATIONS AND MAINTENANCE

Stephen L. Kashiwada ..... Chief, Division of Operations and Maintenance  
Ralph Torres ..... Assistant to the Division Chief

This report was prepared under the direction of

Carl Torgersen ..... Chief, Operations Control Office  
Curtis Creel ..... Chief, Operations Planning Branch

By the  
Operations Records and Reports Section

Guy Masier ..... Section Chief  
Michael Nolasco ..... Water Resources Engineering Associate (Spec.)  
Warren Dibben ..... Water Resources Technician II

The organization shown above represents staff and positions relevant to this report as of publication date on April 28, 2003. It is the department's policy to not show staff in "Acting" or "Temporary" positions.

## Table of Contents

	Page
Organization Page.....	ii
Table of Contents.....	iii
Monthly Highlights .....	1
 <b>Oroville Field Division Water Operations</b> 	
<b>Table</b>	<b>Page</b>
1 Antelope Lake, Daily Operation .....	2
2 Frenchman Lake, Daily Operation .....	3
3 Lake Davis, Daily Operation .....	4
4 Lake Oroville, Daily Operation .....	5
5 Thermalito Forebay, Including Diversion Pool and Power Canal, Daily Operation .....	6
6 Thermalito Afterbay, Daily Operation.....	7
7 Oroville-Thermalito Complex, Water Temperature Data .....	8
 <b>Delta Field Division Water Operations</b> 	
8 Aqueduct Operation, Delta Field Division .....	9
9 Delta Field Division Plant Data .....	10
10 Clifton Court Forebay, Daily Operation of Gates.....	11
11 Governor Edmund G. Brown California Aqueduct, Delta Field Division, Monthly Deliveries .....	12
12 South Bay Aqueduct, Delta Field Division, Monthly Deliveries.....	13
13 Lake Del Valle, Daily Operation.....	14
 <b>San Luis Field Division Water Operations</b> 	
14 Consolidated State-Federal O'Neill Forebay, Daily Operations.....	15
15 Consolidated State-Federal San Luis Reservoir, Daily Operations .....	16
16 San Luis Field Division Plant Data.....	17
17 Consolidated State-Federal Los Banos Reservoir, Daily Operations .....	18
18 Consolidated State-Federal Little Panoche Reservoir, Daily Operations.....	19
19 Governor Edmund G. Brown California Aqueduct, San Luis Field Division, Monthly Deliveries .....	20
20 Consolidated State-Federal San Luis Canal, Daily Operations .....	22
 <b>San Joaquin Field Division Water Operations</b> 	
21 San Joaquin Field Division Plant Data.....	23
22 Governor Edmund G. Brown California Aqueduct, San Joaquin Field Division, Monthly Deliveries .....	24

Table		Page
23	Governor Edmund G. Brown California Aqueduct, San Joaquin Field Division, Monthly Deliveries (Coastal Branch) .....	27
	<b>Southern Field Division Water Operations</b>	
24	Southern Field Division Plant Data .....	28
25	Pyramid Lake, Daily Operation.....	29
26	Elderberry Forebay, Daily Operation.....	30
27	Castaic Lake, Daily Operation .....	31
28	Governor Edmund G. Brown California Aqueduct, Southern Field Division,	
	Monthly Deliveries (West Branch).....	32
29	Silverwood Lake, Daily Operation.....	33
30	Lake Perris, Daily Operation.....	34
31	Governor Edmund G. Brown California Aqueduct, Southern Field Division,	
	Monthly Deliveries (East Branch).....	35
	<b>Water Quality Operations</b>	
32	Water Quality at Selected SWP Locations .....	37
33	Water Quality at Selected Delta Stations.....	38
34	Pesticides, Herbicides, and Other Organic Substances Detected in the SWP.....	39
	<b>Energy Operations</b>	
35	Oroville and Delta Field Divisions Energy Data.....	40
36	San Luis Field Division Energy Data.....	41
37	San Joaquin Field Division Pumping Plant Energy Load Data .....	42
38	Southern Field Division Energy Data .....	43

## **MONTHLY HIGHLIGHTS**

The following highlights are activities or actions that impacted State Water Project operations during the month of November 2002.

Statewide precipitation was 120 percent of average for the 2001-2002 water year as of November 30. Statewide runoff was 75 percent of average for the water year. Precipitation percentages are used in this report to express historical and regional comparisons. Additional and more specific information is available via the internet at: <http://cdec.water.ca.gov/snow-rain.html>.

On November 30, total storage in major SWP reservoirs was about 2.10 MAF, compared with about 2.46 MAF at this time in 2001. The average storage in the major SWP reservoirs at the end of November is about 3.42 MAF. The November 30 storage at Lake Oroville was about 1.22 MAF as compared to 1.42 MAF last year. The State's share of San Luis Reservoir storage was about 572 TAF, as compared with 412 TAF at this time last year. On November 30, the combined storage in our southern reservoirs was about 652 TAF, compared with about 635 TAF at this time last year.

Through November, SWP water deliveries for 2002 were about 2.67 MAF. This is a combination of project, transfer, and exchange waters. This is 720 TAF more than delivered during the same period in 2001.

Strong storm activity at the beginning of the month forced export cuts to prevent salinity intrusion in the Delta brought on by very high tides (storm surge). Subsequent runoff and neap tide cycle quickly freshened up most of the western and central delta alleviating most water quality concerns for the rest of the month.

**Table 1. Antelope Lake**

Daily Operation

(in acre-feet except as noted)

Capacity: 22,566 ac-ft

**November 2002**

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Outflow in cfs					Computed Inflow 1/	
				Regulated Release			Spill	Estimated Evaporation And Seepage 1/		
				Stream-flow Maint.	Water Supply Contract	Water Right				
Oct 31	4992.72	14,869								
1	4992.65	14,818	-51	20	0	0	0			
2	4992.58	14,768	-50	20	0	0	0			
3	4992.51	14,717	-51	20	0	0	0			
4	4992.45	14,674	-43	20	0	0	0			
5	4992.39	14,630	-44	20	0	0	0			
6	4992.33	14,587	-43	20	0	0	0			
7	4992.45	14,674	87	20	0	0	0			
8	4992.59	14,775	101	20	0	0	0			
9	4992.60	14,782	7	20	0	0	0			
10	4992.64	14,811	29	20	0	0	0			
11	4992.61	14,789	-22	20	0	0	0			
12	4992.54	14,731	-58	20	0	0	0			
13	4992.50	14,710	-21	20	0	0	0			
14	4992.46	14,681	-29	20	0	0	0			
15	4992.43	14,659	-22	20	0	0	0			
16	4992.35	14,602	-57	20	0	0	0			
17	4992.29	14,559	-43	20	0	0	0			
18	4992.23	14,516	-43	20	0	0	0			
19	4992.19	14,487	-29	20	0	0	0			
20	4992.14	14,451	-36	20	0	0	0			
21	4992.08	14,408	-43	20	0	0	0			
22	4992.05	14,387	-21	20	0	0	0			
23	4992.00	14,351	-36	20	0	0	0			
24	4991.92	14,294	-57	20	0	0	0			
25	4991.86	14,252	-42	20	0	0	0			
26	4991.80	14,209	-43	20	0	0	0			
27	4991.74	14,167	-42	20	0	0	0			
28	4991.69	14,132	-35	20	0	0	0			
29	4991.63	14,089	-43	20	0	0	0			
30	4991.56	14,040	-49	20	0	0	0			
Total cfs-days				---	600	0	0	57	657	240
Total ac-ft				-829	1,190	0	0	114	1,304	475

1/ Values not available on a daily basis.

**Table 2. Frenchman Lake**

## Daily Operation

(in acre-feet except as noted)

Capacity: 55,477 ac-ft

**November 2002**

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Outflow in cfs					Computed Inflow 1/	
				Regulated Release			Spill	Estimated Evaporation And Seepage 1/		
				Stream-flow Maint.	Water Supply Contract	Water Right				
Oct 31	5560.95	22,318								
1	5560.91	22,282	-36	2	2	0	0			
2	5560.90	22,273	-9	2	2	0	0			
3	5560.92	22,291	18	2	2	0	0			
4	5560.98	22,345	54	2	2	0	0			
5	5560.90	22,273	-72	2	2	0	0			
6	5560.87	22,246	-27	2	2	0	0			
7	5561.01	22,372	126	2	1	0	0			
8	5561.16	22,508	136	2	1	0	0			
9	5561.20	22,544	36	2	1	0	0			
10	5561.16	22,508	-36	2	1	0	0			
11	5561.23	22,572	64	2	0	0	0			
12	5561.23	22,572	0	2	0	0	0			
13	5561.25	22,590	18	2	0	0	0			
14	5561.23	22,572	-18	2	0	0	0			
15	5561.29	22,626	54	2	0	0	0			
16	5561.29	22,626	0	2	0	0	0			
17	5561.25	22,590	-36	2	0	0	0			
18	5561.20	22,544	-46	2	0	0	0			
19	5561.23	22,572	28	2	0	0	0			
20	5561.24	22,581	9	2	0	0	0			
21	5561.23	22,572	-9	2	0	0	0			
22	5561.17	22,517	-55	2	0	0	0			
23	5561.15	22,499	-18	2	0	0	0			
24	5561.13	22,481	-18	2	0	0	0			
25	5561.21	22,553	72	2	0	0	0			
26	5561.13	22,481	-72	2	0	0	0			
27	5561.23	22,572	91	2	0	0	0			
28	5561.21	22,553	-19	2	0	0	0			
29	5561.20	22,544	-9	2	0	0	0			
30	5561.21	22,553	9	2	0	0	0			
Total cfs-days				---	60	16	0	0	73	
Total ac-ft				235	119	32	0	0	145	
									296	
									531	

1/ Values not available on a daily basis.

**Table 3. Lake Davis**

Daily Operation

(in acre-feet except as noted)

Capacity: 84,371 ac-ft

**November 2002**

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Outflow in cfs					Computed Inflow 1/	
				Regulated Release			Spill	Estimated Evaporation And Seepage 1/		
				Stream-flow Maint.	Water Supply Contract	Water Right				
Oct 31	5761.84	40,379								
1	5761.81	40,299	-80	10	0	0	0			
2	5761.79	40,246	-53	10	0	0	0			
3	5761.77	40,193	-53	10	0	0	0			
4	5761.76	40,167	-26	10	0	0	0			
5	5761.74	40,114	-53	10	0	0	0			
6	5761.69	39,982	-132	10	0	0	0			
7	5761.95	40,671	689	10	0	0	0			
8	5762.03	40,884	213	10	0	0	0			
9	5762.07	40,991	107	10	0	0	0			
10	5762.07	40,991	0	10	0	0	0			
11	5762.11	41,072	81	10	0	0	0			
12	5762.12	41,125	53	10	0	0	0			
13	5762.12	41,125	0	10	0	0	0			
14	5762.12	41,125	0	10	0	0	0			
15	5762.11	41,099	-26	10	0	0	0			
16	5762.08	41,018	-81	10	0	0	0			
17	5762.08	41,018	0	10	0	0	0			
18	5762.07	40,991	-27	10	0	0	0			
19	5762.06	40,965	-26	10	0	0	0			
20	5762.05	40,938	-27	10	0	0	0			
21	5762.05	40,938	0	10	0	0	0			
22	5762.04	40,911	-27	10	0	0	0			
23	5762.03	40,884	-27	10	0	0	0			
24	5762.02	40,858	-26	10	0	0	0			
25	5761.98	40,751	-107	10	0	0	0			
26	5761.97	40,724	-27	10	0	0	0			
27	5761.96	40,698	-26	10	0	0	0			
28	5761.96	40,698	0	10	0	0	0			
29	5761.94	40,644	-54	10	0	0	0			
30	5761.93	40,618	-26	10	0	0	0			
Total cfs-days				---	300	0	0	214	514	
Total ac-ft				239	595	0	0	425	1,020	
1/ Values not available on a daily basis.										

**Table 4. Lake Oroville**

Daily Operation

(in acre-feet except as noted)

Capacity: 3,537, 580 ac-ft

**November 2002**

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Outflow					Inflow	
				Hyatt Powerplant Generation 1/	Palermo Canal	Evaporation 2/	Release Through River Valves 3/	Total Outflow	Hyatt Powerplant Pumpback	Computed Inflow 4/
Oct 31	703.34	1,280,304								
	1	702.87	1,276,670	-3,634	4,311	9	160	2,499	6,979	0
	2	702.36	1,272,735	-3,935	4,231	10	137	2,499	6,877	0
	3	701.80	1,268,424	-4,311	4,808	10	91	2,479	7,388	0
	4	701.19	1,263,738	-4,686	4,855	5	108	2,479	7,447	0
	5	700.61	1,259,294	-4,444	4,849	0	102	2,479	7,430	0
	6	700.04	1,254,937	-4,357	4,741	0	91	2,479	7,311	0
	7	699.93	1,254,103	-834	4,789	0	62	2,479	7,330	0
	8	700.38	1,257,535	3,432	4,386	0	45	2,335	6,766	0
	9	700.84	1,261,055	3,520	4,406	0	11	1,983	6,400	0
	10	701.14	1,263,355	2,300	5,119	0	28	1,751	6,898	0
	11	701.28	1,264,429	1,074	4,629	0	6	1,530	6,165	0
	12	701.08	1,262,895	-1,534	5,463	0	23	1,567	7,053	0
	13	700.67	1,259,754	-3,141	5,092	0	23	1,756	6,871	0
	14	700.30	1,256,924	-2,830	5,083	0	51	1,983	7,117	0
	15	700.21	1,256,236	-688	4,880	0	51	1,694	6,625	0
	16	699.96	1,254,332	-1,904	4,771	0	34	1,488	6,293	0
	17	699.62	1,251,738	-2,594	5,227	0	23	1,488	6,738	0
	18	699.35	1,249,680	-2,058	5,348	0	45	1,488	6,881	0
	19	698.94	1,246,561	-3,119	6,054	0	28	1,488	7,570	0
	20	698.52	1,243,371	-3,190	5,803	0	23	1,488	7,314	0
	21	698.42	1,242,612	-759	5,113	0	34	1,488	6,635	0
	22	698.33	1,241,930	-682	3,833	0	39	1,507	5,379	0
	23	698.41	1,242,537	607	2,394	0	39	1,515	3,948	0
	24	698.20	1,240,945	-1,592	3,405	0	0	1,503	4,908	0
	25	698.20	1,240,945	0	4,530	0	56	1,209	5,795	0
	26	697.84	1,238,219	-2,726	5,150	0	174	992	6,316	0
	27	697.53	1,235,875	-2,344	5,569	0	129	992	6,690	0
	28	697.14	1,232,931	-2,944	5,167	0	100	992	6,259	0
	29	696.77	1,230,143	-2,788	5,731	0	45	992	6,768	0
	30	696.41	1,227,434	-2,709	5,493	0	28	992	6,513	0
Total				-52,870	145,230	34	1,786	51,614	198,664	0
1/ Includes bypass flows										
2/ Evaporation will be zero for days when there is precipitation or heavy overcast.										
3/ Release of water through river valves for temperature control purposes.										
4/ Does not include pumpback.										

**Table 5. Thermalito Forebay  
Including Diversion Pool and Power Canal**

Capacity: 25,120 ac-ft

Daily Operation  
(in acre-feet except as noted)

**November 2002**

Date	Storage 1/	Storage Change	Inflow			Outflow					Losses (-) And Gains (+)
			Lake Oroville Releases 2/	Kelly Ridge Generation	Thermalito Pumping- Generating Plant Pumpback	Thermalito Pumping- Generating Plant Generation 3/	Butte County	Thermalito Irrigation District	Releases To River 4/	Hyatt Powerplant Pumpback	
Oct 31	24,554										
1	24,006	-548	6,810	506	0	7,210	0	4	1,258	0	608
2	23,745	-261	6,730	508	0	6,844	0	4	1,258	0	607
3	24,031	286	7,287	510	0	6,916	0	4	1,252	0	661
4	23,985	-46	7,334	508	0	7,326	0	4	1,253	0	695
5	23,935	-50	7,328	511	0	7,319	0	4	1,252	0	686
6	24,209	274	7,220	513	0	6,719	0	4	1,253	0	517
7	24,081	-128	7,268	377	0	7,351	0	4	1,259	0	841
8	23,823	-258	6,721	486	0	6,494	1	4	1,249	0	283
9	23,969	146	6,389	173	0	5,250	1	4	1,253	0	92
10	24,202	233	6,870	155	0	5,656	1	4	1,249	0	118
11	24,387	185	6,159	303	0	5,118	1	4	1,243	0	89
12	24,233	-154	7,030	500	0	6,368	1	4	1,252	0	-59
13	24,302	69	6,848	615	0	6,067	1	5	1,243	0	-78
14	24,168	-134	7,066	405	0	6,542	1	5	1,255	0	198
15	24,277	109	6,574	510	0	5,719	1	5	1,243	0	-7
16	24,058	-219	6,259	506	0	5,688	1	5	1,254	0	-36
17	24,190	132	6,715	511	0	5,789	1	5	1,252	0	-47
18	24,010	-180	6,836	506	0	6,241	1	5	1,252	0	-23
19	24,456	446	7,542	510	0	6,315	1	5	1,252	0	-33
20	24,402	-54	7,291	508	0	6,615	1	5	1,255	0	23
21	23,925	-477	6,601	510	0	6,304	1	5	1,258	0	-20
22	23,800	-125	5,340	502	0	4,721	1	5	1,256	0	16
23	24,039	239	3,909	513	0	2,846	1	5	1,257	0	-74
24	24,905	866	4,908	514	0	3,211	1	5	1,258	0	-81
25	24,836	-69	5,739	511	0	4,977	1	5	1,257	0	-79
26	23,882	-954	6,142	508	0	6,322	1	5	1,261	0	-15
27	23,953	71	6,561	549	0	5,740	1	5	1,273	0	-20
28	24,034	81	6,159	446	0	5,319	1	5	1,275	0	76
29	24,022	-12	6,723	534	0	5,989	1	5	1,273	0	-1
30	23,975	-47	6,485	510	0	5,786	1	5	1,275	0	25
Total		-579	196,844	14,218	0	178,762	23	138	37,680	0	4,962

1/ Sum of Thermalito Forebay and Diversion Pool.

2/ Sum of releases from Lake Oroville through Hyatt plant, and spill.

3/ Includes Bypass flows at Thermalito.

4/ The sum of the flows from fish barrier dam and the fish hatchery.

**Table 6. Thermalito Afterbay**

Daily Operation

(in acre-feet except as noted)

Capacity: 57,040 ac-ft

**November 2002**

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow	Outflow						Losses (-) and Gains (+)	Total Releases to River 2/	
				Thermalito Pumping-Generating Plant Generation 1/	Sutter Butte Canal	Western Canal Lateral	Richvale Canal	Western Canal	Afterbay River Outlet	Thermalito Pumping-Generating Plant Pumpback			
Oct 31	128.62	27,720											
1	128.53	27,442	-278	7,210	1,631	4	615	2,162	2,776	0	-300	4,034	
2	128.34	26,859	-583	6,844	1,750	0	585	2,083	2,757	0	-252	4,015	
3	128.19	26,403	-456	6,916	1,751	0	573	1,980	2,777	0	-291	4,029	
4	128.15	26,282	-121	7,326	1,870	4	555	1,853	2,777	0	-388	4,030	
5	128.25	26,585	303	7,319	1,797	8	543	1,660	2,757	0	-251	4,009	
6	128.22	26,494	-91	6,719	1,771	8	508	1,507	2,757	0	-259	4,010	
7	128.73	28,062	1,568	7,351	1,779	4	476	1,188	2,757	0	421	4,016	
8	128.79	28,249	187	6,494	1,752	0	464	922	2,757	0	-412	4,006	
9	128.58	27,596	-653	5,250	1,752	0	464	805	2,757	0	-125	4,010	
10	128.44	27,165	-431	5,656	1,752	0	461	786	2,777	0	-311	4,026	
11	128.14	26,252	-913	5,118	1,752	0	461	786	2,757	0	-275	4,000	
12	128.27	26,646	394	6,368	1,749	0	466	766	2,757	0	-236	4,009	
13	128.33	26,828	182	6,067	1,787	0	464	692	2,757	0	-185	4,000	
14	128.53	27,442	614	6,542	1,771	0	422	639	2,777	0	-319	4,032	
15	128.55	27,504	62	5,719	1,682	0	405	641	2,757	0	-172	4,000	
16	128.53	27,442	-62	5,688	1,650	0	405	639	2,777	0	-279	4,031	
17	128.56	27,534	92	5,789	1,652	0	407	641	2,757	0	-240	4,009	
18	128.75	28,124	590	6,241	1,617	28	407	620	2,757	0	-222	4,009	
19	128.95	28,751	627	6,315	1,672	48	405	591	2,777	0	-195	4,029	
20	129.15	29,385	634	6,615	1,761	48	407	635	2,757	0	-373	4,012	
21	129.22	29,609	224	6,304	1,785	48	419	718	2,757	0	-353	4,015	
22	128.89	28,563	-1,046	4,721	1,781	40	432	738	2,757	0	-19	4,013	
23	127.87	25,443	-3,120	2,846	1,781	32	442	736	2,757	0	-218	4,014	
24	126.89	22,608	-2,835	3,211	1,783	30	442	738	2,777	0	-276	4,035	
25	126.44	21,360	-1,248	4,977	1,773	30	458	859	2,777	0	-328	4,034	
26	126.55	21,662	302	6,322	1,793	18	436	881	2,757	0	-135	4,018	
27	126.40	21,250	-412	5,740	1,761	8	442	871	2,757	0	-313	4,030	
28	126.11	20,466	-784	5,319	1,743	8	450	887	2,757	0	-258	4,032	
29	126.10	20,439	-27	5,989	1,734	8	454	889	2,777	0	-154	4,050	
30	125.98	20,119	-320	5,786	1,728	8	452	887	2,777	0	-254	4,052	
<b>Total</b>				<b>-7,601</b>	<b>178,762</b>	<b>52,360</b>	<b>382</b>	<b>13,920</b>	<b>29,800</b>	<b>82,929</b>	<b>0</b>	<b>-6,972</b>	<b>120,609</b>

1/ Includes Bypass flows at Thermalito.

2/ The sum of the flows from the fish barrier dam, fish hatchery, and afterbay river outlet.

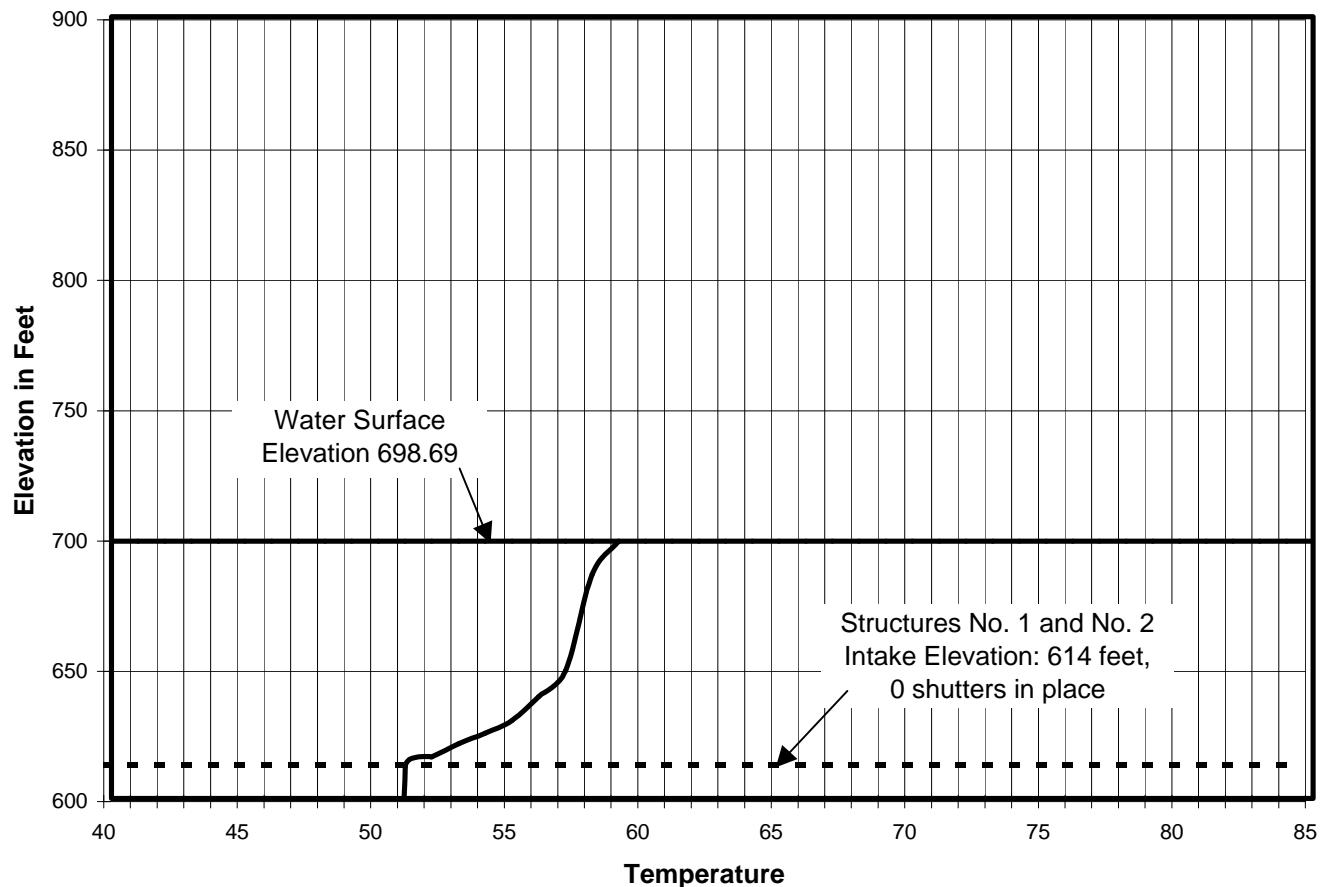
**Table 7. Oroville-Thermalito Complex**

Water Temperature Data

(in degrees Fahrenheit)

November 2002

Date	Mean Daily Temperature	
	Thermalito Afterbay Outlet	Fish Hatchery
1	54	56
2	54	55
3	54	55
4	54	55
5	54	55
6	54	55
7	53	55
8	54	54
9	54	53
10	54	54
11	54	55
12	54	56
13	55	56
14	54	56
15	54	55
16	53	55
17	53	55
18	53	55
19	53	55
20	53	55
21	53	55
22	53	55
23	53	54
24	53	54
25	52	53
26	50	54
27	50	55
28	51	55
29	51	55
30	50	54

**Lake Oroville Temperature Profile  
on November 20, 2002**

Note: Water surface elevations on Table 4 are taken at Oroville Dam at midnight and may differ slightly from those shown on this table which are normally taken at mid-day and upstream from Oroville Dam.

**Table 8. North Bay Aqueduct**  
Delta Field Division, Monthly Deliveries

(In acre-feet)		November 2002								
Reach No.	Operating Pool			Turnout	Total Diversions	Deliveries				
	Beginning and Ending					Entitlement		Permit		
	No.	Structure	Mile			M & I	Benicia			
1	1	Barker Slough Pumping Plant	0.17	(Into the North Bay Aqueduct)	3,707	287	529	343		
		Travis Surge Tank	8.78							
			8.80	Solano County Water Agency Travis Turnout	343					
			10.54	Solano County Water Agency Fairfield / Vacaville 24"	287					
				Solano County Water Agency Fairfield / Vacaville 42"	529					
			17.00	Solano County Water Agency Central Solano	Stub					
2	3A	Cordelia Forebay	21.23			829	938			
		Cordelia Pumping Plant & Cordelia Spillway	21.30		2,635					
3B	2	Napa Pipeline	21.33	Solano County Water Agency Vallejo	938	1	690	177		
				Solano County Water Agency Benicia	829					
		Cordelia Surge Tank	23.33							
		Creston Surge Tank Connection	25.65							
			26.95	Napa County Flood Control & WCD American Canyon 2	1					
			27.27	Napa County Flood Control & WCD American Canyon 3	0					
		Napa Terminal Tank	27.58	City of Napa	690					
			27.60	Napa County Flood Control & WCD American Canyon 1	177					

**Table 9. Delta Field Division Plant Data**

(in acre-feet)

**November 2002**

Date	North Bay Aqueduct		California Aqueduct		South Bay Aqueduct			
	Barker Slough Pumping Plant	Cordelia Pumping Plant	Banks Pumping Plant		South Bay Pumping Plant	Del Valle Pumping Plant		
			Total	SWP		Into Lake	Into Aqueduct	Gravity Flow Through Plant Into Aqueduct
1	57	50	7,774	3,673	0	0	0	227
2	80	56	2,794	2,794	86	0	0	228
3	97	69	3,830	3,830	160	0	0	184
4	135	81	6,825	2,724	170	0	0	228
5	168	90	6,742	2,641	160	0	0	228
6	173	109	3,164	3,164	180	0	0	224
7	156	95	3,172	3,172	192	0	0	188
8	117	76	3,154	3,154	222	0	0	163
9	106	82	3,002	3,002	223	0	0	185
10	109	83	3,107	3,107	223	0	0	181
11	117	71	5,537	5,537	201	0	0	141
12	144	85	7,552	7,552	190	0	0	164
13	123	82	9,861	9,861	208	0	0	142
14	105	66	10,687	10,687	192	0	0	145
15	111	79	11,435	11,435	172	0	0	174
16	118	86	10,710	10,710	142	0	0	196
17	89	68	11,194	11,194	128	0	0	192
18	111	78	9,500	9,500	53	0	0	36
19	117	91	7,994	7,994	32	0	0	0
20	134	98	8,804	8,804	32	0	0	0
21	111	95	7,000	7,000	32	0	0	0
22	138	101	5,782	5,782	32	0	0	0
23	128	97	5,830	5,830	32	0	0	0
24	123	95	5,155	5,155	32	0	0	0
25	126	98	4,933	4,933	32	0	0	0
26	145	110	4,451	4,451	24	0	0	0
27	137	104	4,276	4,276	43	0	0	0
28	146	113	4,266	4,266	33	0	0	0
29	145	114	4,274	4,274	33	0	0	0
30	141	113	4,266	4,266	33	0	0	0
Total	3,707	2,635	187,071	174,768	3,292	0	0	3,224

**Table 10. Clifton Court Forebay**

Daily Operation of Gates

November 2002

Date	Time								Amount of inflow in Acre-Feet
	Opened	Closed	Opened	Closed	Opened	Closed	Opened	Closed	
1	1:30	8:00	12:30	15:05					7,917
2	2:45	6:00							2,964
3	3:45	9:10	13:30	14:30					3,958
4	1:45	9:15							6,931
5	2:45	9:50							6,936
6	0:05	0:45	3:45	7:30					2,970
7	0:01	1:30	4:30	9:45					2,957
8	5:30	8:40							2,960
9	0:01	3:15							2,959
10	0:01	4:15							2,957
11	0:10	4:45	8:55	12:50					5,945
12	0:01	5:40	8:50	15:35					7,918
13	0:01	6:00	9:30	16:52					9,904
14	0:50	7:15	10:15	19:15					10,902
15	2:01	8:00	11:00	19:15					11,349
16	3:01	8:30	11:30	19:45					11,335
17	0:43	1:45	4:01	8:45	11:45	18:28			10,892
18	2:00	13:15	16:00	18:15					9,715
19	2:15	11:15	16:30	17:55					7,930
20	2:45	11:00	12:40	14:00	16:00	18:48			9,902
21	3:30	12:30	13:20	14:30	17:15	18:48			6,936
22	0:10	1:15	4:15	12:10					5,933
23	0:05	1:15	4:45	8:40					3,956
24	0:07	2:30	5:30	9:34					4,940
25	0:01	3:15	9:36	12:29					4,955
26	0:01	4:00	7:45	11:33					4,558
27	0:01	4:45	8:47	11:30					4,147
28	0:01	5:20	10:00	11:25					4,158
29	0:01	4:00							3,952
30	1:30	4:30							3,965
Total inflow for the month in AF:								186,801	

**Table 11. Governor Edmund G. Brown California Aqueduct**  
 Delta Field Division, Monthly Deliveries

(In acre-feet)

**November 2002**

Reach No.	Operating Pool			Turnout	Total Diversions	Deliveries						
	Beginning and Ending					Entitlement	USBR	Local	Loan Water	Dry Year Purchase		
	No.	Structure	Mile									
1	Banks Pumping Plant	3.32			187,071							
2A	1	South Bay Pumping Plant	4.49	Bethany Reservoir inlet	3,292	61	61					
		Check No. 1	5.95									
	2	Check No. 2	12.01									
	3		12.47	Musco Olive	61							
		Check No. 3	18.29									
	4		22.16	Tracy Golf & Country Club	0							
		Check No. 4	23.99									
	5	Check No. 5	29.73									
	6	Check No. 6	34.24									
	7		35.22	Turlock Fruit Company Inflow	0							
		Check No. 7	39.91									
2B	8		42.46	Oak Flat Water District-A	0	17	6					
			42.9	Western Hills WD	6							
			43.81	Oak Flat Water District-B	17							
			44.64	Oak Flat Water District-C	0							
		Check No. 8	45.97									
	9		46.18	Oak Flat Water District-D	0	17	0	0	0	0		
				Oak Flat Totals:	17							
		Check No. 9	51.3									
	10	Check No. 10	56.86									
	11	Check No. 11	61.4									
	12		66.14	Veteran's Cemetery	4		4					
		Check No. 12	66.71		171,310							

**Table 12. South Bay Aqueduct**  
Delta Field Division, Monthly Deliveries

(In acre-feet)

**November 2002**

Reach No.	Operating Pool			Turnout	Total Diversions	Deliveries						
	Beginning and Ending					Entitle-ment	Purchase Pool A	Purchase Pool B	Local	Recre-ation		
	No.	Structure	Mile									
1	1	South Bay Pumping Plant	0.00	(into South Bay Aqueduct)	3,292	2	823	600	167	3		
			3.17	Granite - Vasco Rd. (Temp.)	0							
			3.18	Oakland Scavenger Zone 7	2							
	2	Check No. 1	3.91									
2	3		7.21	Zone 7 Altamont	0	6	1	9	74	75		
		Check No. 3	9.49	Zone 7 Patterson Stored Exchange	0							
				Zone 7 Patterson Project Water	823							
4	6	4	Check No. 4	10.68		1	9	62	167	3		
		5	Check No. 5	12.29								
			13.55	Zone 7 Wente #1	6							
			14.16	Zone 7 Wente #2	1							
			14.31	Ising Project Water	0							
	7	Check No. 6	14.65									
			14.78	Zone 7 Arroyo Mocho Project Water	600							
	8	Check No. 7	16.38			9	736	4	117	75		
			16.57	Zone 7 Wente #3	0							
			16.69	Zone 7 Norman Nursery	0							
			16.70	Zone 7 Concannon Project Water	0							
		Del Valle Branch Pipeline Junction	18.63	(Pumped into Lake Del Valle)	0							
5	8			(Flow into South Bay Aqueduct)	3,224	167	74	75	3			
		Deliveries through Del Valle Branch Pipelne		Arroyo Valle #1 & #2 Project Water	62							
				Arroyo Valle #1 & #2 Inflow Released	167							
				Lake Del Valle Recreation	3							
				Zone 7 Wente #5	0							
6	8		19.20	So. Livermore Project	736	117	415	415	3,415			
				So. Livermore Inflow Released	74							
				So. Livermore Stored Exchanged	0							
			19.21	Zone 7 - Kalthrof Detjens	4							
7	8	La Costa Tunnel	22.50	ACWD Vallecitos Project Water	117	3,415						
				Vallecitos Inflow Release	75							
			25.97	City of San Francisco San Antonio	0							
8	8	Mission Tunnel	28.97	ACWD - Bayside 1 & 2 Project Water: Inflow Released	415	3,415						
				Stored Exchange:	0							
9		Santa Clara Pipeline	35.86	S.C.V.W.D. Meter	3,415							

**Table 13. Lake Del Valle**

Daily Operation

Capacity: 77,106 ac-ft

**November 2002**

Date	Water Surface Elevation (feet)	Storage	Storage Change	Inflow		Outflow					Precipitation (inches)
				Natural 1/	From South Bay Aqueduct	Arroyo Valle	South Bay Aqueduct	Recreation Deliveries 2/	Evaporation	Total Outflow	
Oct 31	687.03	29,625									
1	686.62	29,388	-237	-3	0	0	227	0	8	234	0.00
2	686.21	29,153	-235	0	0	0	228	0	8	235	0.00
3	685.87	28,960	-193	-1	0	0	184	0	8	192	0.00
4	685.45	28,722	-238	-3	0	0	228	0	7	235	0.00
5	685.03	28,486	-236	-1	0	0	228	0	8	235	0.00
6	684.70	28,301	-185	47	0	0	224	0	8	232	0.00
7	684.32	28,090	-211	-16	0	0	188	0	7	195	0.15
8	684.21	28,029	-61	102	0	0	163	0	0	163	2.05
9	684.01	27,918	-111	75	0	0	185	0	1	186	0.14
10	683.74	27,770	-148	36	0	0	181	0	4	184	0.00
11	683.40	27,584	-186	-44	0	0	141	0	1	142	0.17
12	683.16	27,453	-131	36	0	0	164	0	2	167	0.00
13	682.86	27,290	-163	-17	0	0	142	0	4	146	0.00
14	682.58	27,139	-151	-2	0	0	145	0	4	149	0.00
15	682.32	27,000	-139	39	0	0	174	0	4	178	0.00
16	681.93	26,792	-208	-9	0	0	196	0	3	199	0.00
17	681.55	26,590	-202	-8	0	0	192	0	3	194	0.00
18	681.27	26,443	-147	-105	0	0	36	0	6	42	0.00
19	681.28	26,448	5	11	0	0	0	0	6	6	0.00
20	681.28	26,448	0	0	0	0	0	0	0	0	0.00
21	681.28	26,448	0	2	0	0	0	0	2	2	0.00
22	681.28	26,448	0	4	0	0	0	0	4	4	0.00
23	681.28	26,448	0	2	0	0	0	0	2	2	0.00
24	681.28	26,448	0	2	0	0	0	0	2	2	0.00
25	681.28	26,448	0	3	0	0	0	0	3	3	0.00
26	681.28	26,448	0	4	0	0	0	0	4	4	0.00
27	681.28	26,448	0	5	0	0	0	0	5	5	0.00
28	681.28	26,448	0	6	0	0	0	1	5	6	0.00
29	681.27	26,443	-5	1	0	0	0	0	1	5	6
30	681.26	26,438	-5	-1	0	0	0	0	1	3	4
Total			-3,187	167	0	0	3,224	3	127	3,354	2.51

1/ Total inflow from stream gaging station above Lang Canyon and accretions/depletions.

2/ To East Bay Regional Park District.

NR=No Records

**Table 14. Consolidated State-Federal O'Neill Forebay**

Daily Operations

**November 2002**

United States  
Department of the Interior  
Bureau of Reclamation  
Central Valley Project

State of California  
The Resources Agency  
Department of Water Resources  
State Water Project

Date	Water Surface Elevation (in feet)	Storage (ac-ft)	Storage Change	Inflow (cfs)				Outflow (cfs)				Computed Losses (-) Gains (+) (cfs)	
				Pump In 1/	O'Neill Pumping Generating Plant (Pumped)	Gianelli Pumping Generating Plant (Generation)	California Aqueduct	O'Neill Pumping Generating Plant (Generation)	Gianelli Pumping Generating Plant (Pumped)	Dos Amigos Pumping Plant	Deliveries 2/		
Oct 31	221.62	47,388											
1	223.64	52,759	5,371	0	1,444	2,887	3,940	591	2,324	3,152	5	509	
2	223.47	52,303	-456	0	2,442	2,413	960	0	3,082	3,252	4	293	
3	219.96	43,048	-9,255	0	2,730	0	1,817	0	5,570	4,181	5	543	
4	219.48	41,810	-1,238	0	1,377	0	3,133	604	2,383	2,694	4	551	
5	219.25	41,221	-589	0	900	2,193	3,057	594	2,544	3,468	5	164	
6	219.81	42,660	1,439	0	1,265	3,615	1,603	348	2,543	2,787	4	-76	
7	221.00	45,760	3,100	0	2,828	3,064	1,458	0	2,544	3,323	5	85	
8	218.50	39,323	-6,437	0	2,569	0	1,493	0	4,304	3,008	4	9	
9	221.87	48,045	8,722	0	988	5,728	1,086	0	0	3,052	5	-348	
10	220.42	44,244	-3,801	0	625	0	1,545	0	0	4,330	4	248	
11	219.37	41,528	-2,716	0	1,681	0	2,125	0	2,546	2,677	5	53	
12	220.57	44,635	3,107	0	3,469	0	3,262	0	2,635	2,640	4	114	
13	222.53	49,793	5,158	0	3,573	0	5,261	0	3,826	2,736	5	333	
14	222.61	50,006	213	0	3,570	0	4,677	0	5,285	2,832	4	-19	
15	222.52	49,767	-239	0	3,579	0	5,006	0	6,107	2,814	5	221	
16	222.23	48,995	-772	0	3,599	0	4,840	0	6,211	2,783	4	170	
17	220.30	43,931	-5,064	0	3,600	0	5,202	0	8,039	3,571	5	260	
18	220.22	43,723	-208	0	3,604	0	4,595	0	5,009	3,035	4	-256	
19	221.24	46,390	2,667	0	3,588	0	3,632	0	3,170	3,047	5	347	
20	221.54	47,178	788	0	3,259	0	4,381	0	3,924	3,526	4	211	
21	219.62	42,170	-5,008	0	3,471	0	3,191	0	5,428	3,745	5	-9	
22	219.10	40,839	-1,331	0	3,639	0	2,861	0	3,325	3,391	4	-451	
23	220.12	43,463	2,624	0	3,580	1,938	2,536	0	2,803	4,127	5	204	
24	219.03	40,660	-2,803	0	3,581	0	2,536	0	2,400	5,268	4	142	
25	221.06	45,918	5,258	0	3,501	3,582	2,194	0	3,346	3,243	5	-32	
26	221.28	46,495	577	0	3,416	1,358	2,227	0	3,354	3,270	4	-82	
27	220.00	43,152	-3,343	0	3,429	0	1,818	0	3,353	3,666	5	92	
28	218.60	39,573	-3,579	0	3,367	577	1,980	0	3,693	3,990	4	-41	
29	219.19	41,068	1,495	0	3,340	720	1,977	0	2,527	2,816	5	65	
30	219.37	41,528	460	0	3,404	507	1,972	0	2,166	3,529	5	49	
Total				-5,860	0	85,418	28,582	86,365	2,137	104,441	99,953	136	3,348
Mean cfs				---	0	2,847	953	2,879	71	3,481	3,332	5	112
Acre-feet				-5,860		169,424	56,693	171,310	4,240	207,159	198,257	269	6,638

1/ Pump-in located at Mile 79.67R.

2/ Includes 64 AF delivered to DFG at O'Neill Forebay, 1 AF to P&R Cattle, and 204 AF to SLWD.

**Table 15. Consolidated State-Federal San Luis Reservoir**

Daily Operations

November 2002

United States

Department of the Interior

Bureau of Reclamation

Central Valley Project

State of California

The Resources Agency

Department of Water Resources

State Water Project

Capacity: 2,027,835 ac-ft

Date	Water Surface Elev. (in feet)	Storage (ac-ft)	Storage Change (ac-ft)	Inflow (cfs)	Outflow (cfs)			Computed Losses (-) Gains (+) (cfs)
				Gianelli Pumping Generating Plant (Pumped)	Gianelli Pumping Generating Plant (Generation)	Pacheco Tunnel 1/	Parks and Rec. Del.	
Oct 31	415.30	649,730						
1	415.07	647,748	-1,982	2,324	2,887	268	0	-168
2	415.07	647,748	0	3,082	2,413	269	0	-400
3	416.18	657,334	9,586	5,570	0	252	0	-485
4	416.55	660,542	3,208	2,383	0	247	0	-519
5	416.60	660,975	433	2,544	2,193	214	0	81
6	416.31	658,461	-2,514	2,543	3,615	186	0	-9
7	416.33	658,634	173	2,544	3,064	140	0	747
8	417.35	667,496	8,862	4,304	0	132	0	296
9	416.20	657,508	-9,988	0	5,728	114	0	806
10	416.15	657,075	-433	0	0	109	0	-109
11	416.64	661,323	4,248	2,546	0	116	0	-288
12	417.22	666,364	5,041	2,635	0	134	0	40
13	418.03	673,429	7,065	3,826	0	124	0	-140
14	419.17	683,419	9,990	5,285	0	134	0	-114
15	420.51	695,232	11,813	6,107	0	124	0	-27
16	421.88	707,387	12,155	6,211	0	128	0	45
17	423.60	722,760	15,373	8,039	0	134	0	-155
18	424.65	732,205	9,445	5,009	0	197	0	-50
19	425.30	738,075	5,870	3,170	0	238	0	27
20	426.11	745,402	7,327	3,924	0	223	0	-7
21	427.19	755,210	9,808	5,428	0	235	0	-248
22	427.94	762,047	6,837	3,325	0	230	0	352
23	428.13	763,782	1,735	2,803	1,938	223	0	233
24	428.53	767,440	3,658	2,400	0	226	0	-330
25	428.43	766,525	-915	3,346	3,582	232	0	7
26	428.80	769,912	3,387	3,354	1,358	245	0	-43
27	429.46	775,968	6,056	3,353	0	232	0	-68
28	430.07	781,579	5,611	3,693	577	240	0	-47
29	430.39	784,527	2,948	2,527	720	236	0	-85
30	430.72	787,573	3,046	2,166	507	424	1	302
Total		137,843	104,441	28,582	6,006	1	-356	
Mean cfs		---	3,481	953	200	0	-12	
Acre-feet		137,843	207,159	56,693	11,915	1	-707	

1/ Pacheco Tunnel, San Felipe Split; Santa Clara: 10,957 AF, San Benito: 958 AF.

**Table 16. San Luis Field Division Plant Data**

(in acre-feet)

**November 2002**

Date	Dos Amigos Pumping Plant		Gianelli Pumping - Generating Plant			San Felipe Project	
	Total Pumping	SWP Pumping 1/ 2/	Total Generation	SWP Generation 1/ 2/	Total Pumping	SWP Pumping 1/ 2/	Federal
1	6,252	6,252	5,727	5,727	4,609	-285	532
2	6,451	6,451	4,787	4,787	6,114	1,139	533
3	8,294	8,294	0	0	11,048	-420	499
4	5,344	5,344	0	0	4,727	-380	490
5	6,879	6,879	4,350	4,350	5,046	-88	425
6	5,529	5,529	7,170	7,170	5,045	-82	369
7	6,591	6,591	6,077	6,077	5,047	-87	278
8	5,966	5,966	0	0	8,536	4,486	262
9	6,053	6,053	11,362	11,362	0	0	226
10	8,589	8,589	0	0	0	0	217
11	5,309	4,780	0	0	5,050	-135	230
12	5,236	4,711	0	0	5,227	77	265
13	5,427	4,900	0	0	7,588	2,428	246
14	5,618	5,090	0	0	10,483	4,032	266
15	5,581	5,046	0	0	12,114	5,332	245
16	5,520	4,982	0	0	12,319	6,309	254
17	7,084	6,555	0	0	15,946	6,724	266
18	6,019	5,509	0	0	9,936	3,569	391
19	6,043	5,527	0	0	6,288	-28	473
20	6,994	6,268	0	0	7,783	1,076	442
21	7,428	6,718	0	0	10,767	4,093	466
22	6,726	5,575	0	0	6,595	604	456
23	8,185	7,018	3,845	3,845	5,559	6	443
24	10,449	9,209	0	0	4,760	59	448
25	6,433	5,269	7,105	7,105	6,636	-127	461
26	6,487	5,329	2,693	2,693	6,652	-92	486
27	7,272	6,079	0	0	6,650	-84	461
28	7,914	6,530	1,144	1,144	7,325	1,016	476
29	5,585	4,210	1,428	1,428	5,013	-74	468
30	6,999	5,593	1,005	1,005	4,296	-27	841
Total	198,257	180,846	56,693	56,693	207,159	39,041	11,915

1/ Negative values may appear in SWP columns and indicate a mismatch of scheduled CVP energy and actual pumping;  
adjustments to SWP water shares are made to balance the mismatch.

2/ Provisional, subject to change.

**Table 17. Consolidated State-Federal Los Banos Reservoir**

Daily Operations

November 2002

United States

Department of the Interior

Bureau of Reclamation

Central Valley Project

State of California

The Resources Agency

Department of Water Resources

State Water Project

Date	Water Surface Elev. (in feet)	Storage (ac-ft)	Storage Change (ac-ft)	Estimated Inflow (cfs)	Estimated Outflow (cfs)		Computed Losses (-) Gains (+) (ac-ft)
					Spill	Outlet	
Oct 31	323.67	18,686					
1	323.65	18,677	-9	0	0	0	-9
2	323.63	18,668	-9	0	0	0	-9
3	323.62	18,664	-4	0	0	0	-4
4	323.61	18,659	-5	0	0	0	-5
5	323.60	18,655	-4	0	0	0	-4
6	323.60	18,655	0	0	0	0	0
7	323.64	18,673	18	9	0	0	0
8	323.69	18,695	22	11	0	0	0
9	323.68	18,690	-5	0	0	0	-5
10	323.66	18,682	-8	0	0	0	-8
11	323.66	18,682	0	0	0	0	0
12	323.65	18,677	-5	0	0	0	-5
13	323.65	18,677	0	0	0	0	0
14	323.64	18,673	-4	0	0	0	-4
15	323.63	18,668	-5	0	0	0	-5
16	323.63	18,668	0	0	0	0	0
17	323.62	18,664	-4	0	0	0	-4
18	323.61	18,659	-5	0	0	0	-5
19	323.61	18,659	0	0	0	0	0
20	323.61	18,659	0	0	0	0	0
21	323.61	18,659	0	0	0	0	0
22	323.59	18,650	-9	0	0	0	-9
23	323.58	18,646	-4	0	0	0	-4
24	323.58	18,646	0	0	0	0	0
25	323.57	18,642	-4	0	0	0	-4
26	323.56	18,637	-5	0	0	0	-5
27	323.55	18,633	-4	0	0	0	-4
28	323.55	18,633	0	0	0	0	0
29	323.55	18,633	0	0	0	0	0
30	323.53	18,624	-9	0	0	0	-9
Total			-62	20	0	0	-102
Mean cfs			---	1	0	0	---
Acre-feet			-62	40	0	0	-102

**Table 18. Consolidated State-Federal Little Panoche Reservoir**

Daily Operations

November 2002

United States

Department of the Interior

Bureau of Reclamation

Central Valley Project

State of California

The Resources Agency

Department of Water Resources

State Water Project

Capacity: 5,580 ac-ft

Date	Water Surface Elev. (in feet)	Storage (ac-ft) 1/	Storage Change (ac-ft) 1/	Estimated Inflow (cfs)	Estimated Outflow (cfs)		Computed Losses (-) Gains (+) (ac-ft) 1/
					Spill	Outlet	
Oct 31	600.00	684					
1	Not Observed				0	0	
2	Not Observed				0	0	
3	Not Observed				0	0	
4	Not Observed				0	0	
5	Not Observed				0	0	
6	Not Observed				0	0	
7	600.20	694	10	5	0	0	
8	600.20	694	0		0	0	
9	Not Observed				0	0	
10	Not Observed				0	0	
11	Not Observed				0	0	
12	Not Observed				0	0	
13	600.20	694	0		0	0	
14	600.20	694	0		0	0	
15	600.60	715	21	11	0	0	
16	600.60	715	0		0	0	
17	Not Observed				0	0	
18	Not Observed				0	0	
19	Not Observed				0	0	
20	Not Observed				0	0	
21	600.73	722	7	4	0	0	
22	Not Observed				0	0	
23	Not Observed				0	0	
24	Not Observed				0	0	
25	Not Observed				0	0	
26	Not Observed				0	0	
27	Not Observed				0	0	
28	Not Observed				0	0	
29	600.90	731	9	5	0	0	
30	Not Observed				0	0	
Total			47	25	0	0	---
Mean cfs			---	6	0	0	---
Acre-feet			47	50	0	0	-3

1/ Not available on a daily basis

**Table 19a. Governor Edmund G. Brown California Aqueduct**

San Luis Field Division, Monthly Deliveries

(In acre-feet)

**November 2002**

Reach No.	Operating Pool			Turnout	Total Diversions	Deliveries					
	Beginning and Ending					USBR	Transfer 1/	DWR Recreation	USBR Recreation		
	No.	Structure	Mile								
2B	12	Check No. 12	66.71		171,310						
3A		San Luis Reservoir		Department of Parks and Recreation	1	10,957		1	0		
				San Felipe Division	10,957						
				Santa Clara Water District		958		35	29		
				San Felipe Division	958						
3	13	O'Neill Forebay	70.85	San Benito Water District				0	0		
				Department of Parks and Recreation				1	0		
				Cattle Program	1						
			70.91	Department of Fish & Game	64			35	29		
				San Luis Water District	204	204		36	29		
				(Floodwater Inflow)	0						
			86.73	Reach 3 Subtotal:	269	204	0	36	29		
				Check No. 13							
				Dos Amigos Pumping Plant	198,257						
4	14		89.03	San Luis Water District	1,146	1,146					
				Thru 94.06							
				89.66			10				
				Thru 89.67	Pacheco Water District						
				89.68	10						
			89.70	Panoche Water District	33	33					
				City of Dos Palos	79						
				Check No. 14							
				95.06							
			98.15	San Luis Water District	196	196	1,163				
4	15			Thru 104.20							
				96.15		2					
				Thru 102.64	Panoche Water District						
				(Floodwater Inflow)	1,163						
				102.64	Broadview Water District	2,634					
				105.22							
				Thru 108.64	Westlands Water District						
		Check No.15	108.50	2,634							
			San Felipe Division Total:	11,915	11,915	0	0	0			
			Pacheco Water District Total:	10	10						
			Broadview Water District Total:	2	2						
			City of Dos Palos Total:	79	79						
			SLWD Reach 4 Subtotal:	1,342	1,342						
			Panoche Water District Total:	1,196	1,196						
			SLWD Total:	1,546	1,546						
			Westlands WD Reach 4 Subtotal:	0	0						

1/ Water transferred from Contra Costa Water District.

**Table 19b. Governor Edmund G. Brown California Aqueduct**

San Luis Field Division, Monthly Deliveries (Continued)

(In acre-feet)

**November 2002**

Reach No.	Operating Pool			Turnout	Total Diversions	Deliveries							
	Beginning and Ending					USBR	Transfer	DWR Recreation	USBR Recreation				
	No.	Structure	Mile										
5	16		110.52	(Reverse flow, Kings River)	0	3,175	3,175	1					
			Thru	Westlands Water District	3,175								
			122.05	Department of Fish and Game	1								
		Check No. 16	122.07										
	17		124.18	Westlands Water District	2,748	2,748							
			Thru 132.74										
		Check No. 17	132.95										
	18		133.81	Westlands Water District	5,208	5,208							
			Thru 142.61										
		Pleasant Valley Pumping Plant	143.16	Westlands Water District	3,487								
			143.16	City of Coalinga	384								
		Check No. 18	143.23										
				Westlands WD Reach 5 Subtotal:	14,618	14,618	0	0	0				
6	19		145.26	Westlands Water District	4,181	4,181							
			Thru 151.19										
				Garrett Wheeldartor Frye Energy Company	2								
		Check No. 19	155.64										
				Westlands WD Reach 6 Subtotal:	4,181	4,181	0	0	0				
7	20		156.34	City of Huron	71	71							
			156.40	Westlands Water District	2,652								
			Thru 163.69										
		Check No. 20	164.69										
	21		164.79	City of Avenal	85	85							
			167.04	Westlands Water District	709								
		Check No. 21	171.67										
			172.40		175,959								
				Reach 7 Total:	3,517	3,517	0	0	0				
				Westlands WD Total:	22,160	22,160	0	0	0				
				City of Coalinga Total:	384	384	0	0	0				
				City of Huron Total:	71	71	0	0	0				
				GWF Energy	2	2	0	0	0				
				City of Avenal Total:	85	85	0	0	0				
				Phase I Water Total:	22	0	0	0	0				
Total San Luis Field Division Deliveries:					37,517	37,450	0	38	29				

**Table 20. Consolidated State-Federal San Luis Canal 1/**

Daily Operations  
November 2002

United States  
Department of the Interior  
Bureau of Reclamation  
Central Valley Project

State of California  
The Resources Agency  
Department of Water Resources  
State Water Project

Date	Storage In Canal (ac-ft)	Storage Change (ac-ft)	Inflow (cfs)		Outflow (cfs)				Computed Losses (-) Gains (+) (cfs)
			Non- Project 2/	Dos Amigos Pumping Plant	Pools 14 & 15 3/	Pool 15	Pools 15 thru 21 4/	Flow Past Check 21	
Oct 31	28,283								
1	28,714	431	0	3,152	23	21	435	2,435	-21
2	28,647	-67	0	3,252	25	19	434	2,830	22
3	29,378	731	0	4,181	23	20	436	3,422	89
4	28,732	-646	0	2,694	24	20	435	2,714	173
5	28,784	52	0	3,468	25	21	434	3,034	72
6	28,044	-740	0	2,787	23	19	435	2,882	199
7	28,227	183	0	3,323	25	20	426	3,058	298
8	29,120	893	0	3,008	24	20	434	2,454	374
9	28,074	-1,046	0	3,052	25	21	436	3,597	499
10	28,756	682	0	4,330	23	20	424	3,824	305
11	28,830	74	0	2,677	25	19	425	2,450	280
12	28,651	-179	0	2,640	24	20	426	2,459	199
13	28,727	76	0	2,736	25	21	425	2,377	150
14	27,901	-826	0	2,832	24	19	425	2,965	185
15	28,895	994	0	2,814	23	20	424	1,922	76
16	27,603	-1,292	0	2,783	25	21	426	3,181	218
17	27,993	390	0	3,571	24	20	425	3,126	221
18	27,733	-260	0	3,035	25	21	424	2,871	175
19	26,924	-809	0	3,047	23	19	425	3,099	111
20	27,079	155	0	3,526	25	20	424	2,961	-18
21	27,758	679	0	3,745	24	20	426	2,925	-8
22	27,008	-750	0	3,391	23	21	424	3,238	-63
23	27,424	416	0	4,127	25	19	425	3,370	-78
24	27,876	452	0	5,268	23	20	425	4,532	-40
25	27,400	-476	0	3,243	25	21	425	2,975	-37
26	27,436	36	0	3,270	24	21	425	2,644	-138
27	28,294	858	0	3,666	23	20	426	2,558	-207
28	28,757	463	0	3,990	23	19	425	3,484	194
29	28,330	-427	0	2,816	25	20	424	2,516	-47
30	28,471	141	0	3,529	23	21	426	2,811	-177
Total		188	0	99,953	721	603	12,829	88,711	3,006
Mean cfs		---	0	3,332	24	20	428	2,957	100
Acre-feet		188	0	198,257	1,431	1,196	25,446	175,959	5,963

1/ San Luis Canal includes Pools 14 through 21 of the California Aqueduct.

2/ Pump In of Non-Project Water and Flood Water is included in the gain or loss.

3/ Includes 9 AF AG & 1 AF M&I to Pacheco W.D. and 79 AF to the City of Dos Palos.

4/ Includes 71 AF to the City of Huron, 86 AF to the City of Avenal, 384 AF to the City of Coalinga, 1 AF to F&G @ WWD Lat. 4L, 22 AF Phase I Water in Pool 15 @ at 1R, 2 AF to GWF Energy @ WWD Lat. 30L, and 2 AF to Broadview W.D.

**Table 21. San Joaquin Field Division Plant Data**

(in acre-feet)

November 2002

Date	Coastal Aqueduct					California Aqueduct			
	Las Perillas Pumping Plant	Badger Hill Pumping Plant	Devil's Den Pumping Plant	Bluestone Pumping Plant	Polonio Pass Pumping Plant	Buena Vista Pumping Plant	Teerink Pumping Plant	Chrisman Pumping Plant	Edmonston Pumping Plant
1	0	0	2	1	0	3,725	3,779	3,683	3,623
2	0	0	0	0	0	4,781	4,879	4,759	4,681
3	0	0	0	0	0	5,962	6,162	6,004	5,960
4	19	19	0	0	0	4,639	4,796	4,652	4,708
5	25	25	0	0	0	4,906	4,999	4,936	4,934
6	20	20	0	0	0	5,258	5,483	5,316	5,210
7	19	19	1	1	1	5,467	5,614	5,496	5,453
8	50	50	1	1	1	3,921	3,837	3,702	3,762
9	42	42	1	1	1	6,425	6,589	6,560	6,482
10	87	87	1	2	2	7,557	7,900	7,811	7,896
11	104	104	68	68	70	4,734	4,734	4,621	4,534
12	209	209	122	115	121	4,501	4,675	4,515	4,528
13	186	186	81	78	83	4,363	4,543	4,401	4,374
14	193	193	103	98	102	4,779	4,743	4,624	4,722
15	132	132	75	71	77	4,211	4,406	4,330	4,343
16	185	185	118	109	118	5,311	5,421	5,301	5,240
17	158	158	108	100	111	6,461	6,510	6,493	6,443
18	139	139	78	75	79	4,839	5,053	4,929	4,837
19	199	199	112	106	108	5,054	4,990	4,922	4,937
20	174	174	117	110	115	5,149	5,171	5,042	5,063
21	185	185	114	107	113	5,272	5,276	5,074	5,170
22	191	191	113	108	111	5,196	5,324	5,160	5,087
23	217	217	119	110	112	6,459	6,355	6,438	6,500
24	238	238	138	129	139	7,687	7,903	7,734	7,735
25	173	173	70	66	71	5,033	5,088	4,971	4,982
26	199	199	108	102	107	4,785	4,880	4,770	4,770
27	168	168	118	114	119	4,716	4,805	4,638	4,603
28	182	182	114	110	113	6,145	6,433	6,297	6,387
29	162	162	108	104	107	4,723	4,896	4,738	4,679
30	146	146	110	105	108	5,290	5,274	5,160	5,272
Total	3,802	3,802	2,100	1,991	2,089	157,349	160,518	157,077	156,915

**Table 22a. Governor Edmund G. Brown California Aqueduct**

San Joaquin Field Division, Monthly Deliveries

(In acre-feet)

**November 2002**

Reach No.	Operating Pool			Turnout	Total Diversions	Deliveries						
	Beginning and Ending					Entitlement	USBR	Purchase Pool A	Pump in Recovery	Other		
	No.	Structure	Mile									
7	21	Check No. 21	172.40		175,959							
8C	22		172.66	Empire West Side Irrig. Dist. TL - A	0	84 51 7 624	3					
				County of Kings TL - A	0							
				TLBWSD TL-A	0							
			175.18	DRWD - 1	84							
8D			177.54	DRWD - 1B	51							
			180.64	TLBWSD - C	0							
			180.65	DRWD - 1A	7							
			182.99	DRWD - 2	624							
31A			183.00	Tulare Lake Basin WSD TL - B	0							
			184.00	DRWD - Paramount	3							
			184.63	Coastal Branch	3,802							
			184.78	Dudley Ridge Water Dist. DRWD - 3	0							
8D				Dudley Ridge Reach 8D Total:	769		769	0	0	0		
				Tulare Lake Basin WSD Total:	0							
9	23		Check No. 22	184.82								
			189.69	Kern County Water Agency Lost Hills Water Dist. - 1	69							
			191.18	Kern County Water Agency Lost Hills Water Dist. - 2	0							
			194.22	Kern County Water Agency Lost Hills Water Dist. - 3	9							
			196.40	Kern County Water Agency Berrenda Mesa - 2	0							
			196.75	Kern County Water Agency Lost Hills Water Dist. - 4	0							
				K.C.W.A. Reach 9 Subtotal:	78							
			Check No. 23	197.05								
			201.24	Kern County Water Agency Lost Hills Water Dist. - 7	12		5	0	0	7		
			202.05	Kern County Water Agency Lost Hills Water Dist. - 5	10							
10A	24		204.69	Kern County Water Agency Lost Hills Water Dist. - 6	0							
			205.26	Kern County Water Agency Lost Hills Water Dist. - 8	2							
			Check No. 24	207.94								
			209.71	Kern County Water Agency Belridge Water Storage Dist. - 1A	641		2	4,656	641	1/ 818		
			209.78	Kern National Wildlife Refuge USBR BV-1B	4,656							
				Kern County Water Agency Buena Vista WSD 1B	48							
			209.80	KCWA Semitropic WSD	818							
				KCWA Semitropic WSD Penstocks	4,767							
	25			USBR Total:	4,656		0	4,656	0	2,177		
				K.C.W.A. Reach 10A Subtotal:	6,298							

1/ Castaic WA water sent for storage in Semitropic WA.

**Table 22b. Governor Edmund G. Brown California Aqueduct**

San Joaquin Field Division, Monthly Deliveries (Continued)

(In acre-feet)

**November 2002**

Reach No.	Operating Pool			Turnout	Total Diversions	Deliveries						
	Beginning and Ending					Entitlement	Purchase Pool A	Purchase Pool B	Pump in Recovery	Other		
	No.	Structure	Mile									
11B	25		210.75	Kern County Water Agency Belridge - 2	0	121			88			
			214.11	Kern County Water Agency Belridge - 3	88							
			216.62	Kern County Water Agency Belridge - 4	0							
			217.13	Kern County Water Agency Belridge - 5	1,875							
				Kern County Water Agency Belridge - 5D	121							
			Check No. 25	217.79								
				K.C.W.A. Reach 11B Subtotal:	2,084	121	0	0	1,963	0		
12D	26		219.58	Kern County Water Agency Belridge - 6	0	66						
				Kern County Water Agency West Kern - 3	66							
			Check No. 26	224.92								
12E	27		230.37	Kern County Water Agency Buena Vista - 6	0	51						
			Check No. 27	231.73								
	28		235.75	Kern County Water Agency Buena Vista - 2	0							
				Kern County WA CVC	51							
				DRWD CVC	0							
			238.04	Tulare Co.	0							
				Lower Tule River	0							
				Fresno Co.	0							
				Pixley ID	0							
				Hacienda								
				DWR Wells	0							
			Check No. 28	238.11								
13B	29			1/ Arvin Edison Total:	0	51	0	0	0	0		
				Reach 12E Subtotal:	51		51	0	0	0		
			238.19	Kern Water Bank Inflow	0							
			241.02	Kern Water Bank Outflow	0							
			242.85	Kern River Intertie (inflow)	0							
			243.09	KCWA Buena Vista WSD - 7	0							
			Check No. 29	244.54	KCWA Buena Vista WSD - 5	666						
			249.85	Kern County Water Agency Buena Vista - 3	0							
			Buena Vista Pumping Plant	250.99	Buena Vista WSD	55						
					K.C.W.A. Reach 13B Subtotal:	721	0	0	721			
			254.47	Kern County Water Agency West Kern - 2	0	0						
14A	31		256.11	Kern County Water Agency Wheeler Ridge-Maricopa - 2	0							

1/ Arvin Edison Contractors include Rag Gulch WD, Kern-Tulare WD, Fresno County, Hills Valley ID, Tri Valley WD, Tulare County, Lower Tule River ID, and Pixley ID.

**Table 22c. Governor Edmund G. Brown California Aqueduct**

San Joaquin Field Division, Monthly Deliveries (Continued)

(In acre-feet)

**November 2002**

Reach No.	Operating Pool			Turnout	Total Diversions	Deliveries									
	Beginning and Ending					Entitlement	Purchase Pool A	MWD Ent. Exchange	Pump in Recovery	Other					
	No.	Structure	Mile												
14A	31	Check No. 31	256.14	Kern County Water Agency Wheeler Ridge-Maricopa - 3	16	16									
	32		258.61												
			260.44												
		Check No. 32	261.72												
				KCWA Reach 14A Subtotal:	97	97	0	0	0	0					
14B	33		264.42	Kern County Water Agency Wheeler Ridge-Maricopa - 5	676	676									
			266.91												
			Check No. 33	267.36											
	34		270.24	Kern County Water Agency Wheeler Ridge-Maricopa - 7	282	145									
			Check No. 34	271.27											
				Reach 14B Total:	1,103	1,103	0	0	0	0					
14C	35		272.39	Kern County Water Agency Wheeler Ridge-Maricopa - 8	314	314									
			276.09												
				Reach 14C Total:	408	408	0	0	0	0					
15A	36	Teerink Pumping Plant	278.13		160,518										
			279.02		60		60								
			280.06		415			415							
				Reach 15-A Total:	475	475	0	0	0	0					
	Chrismar Pumping Plant		280.36		157,077										
16A	37		282.06	Kern County Water Agency Wheeler Ridge-Maricopa - 11	0										
			Check No. 37	283.95											
	38		285.01	Kern County Water Agency Wheeler Ridge-Maricopa - 12	7		7								
			286.39												
			287.06												
	39		Check No. 38	287.09											
				287.62											
	40	Edmonston Pumping Plant	Check No. 39	290.21											
				291.26	10										
				293.07											
					K.C.W.A. Reach 16A Subtotal:	32	32	0	0	0					
17E			293.45		156,915										

**Table 23. Governor Edmund G. Brown California Aqueduct**

San Joaquin Field Division, Monthly Deliveries (Coastal Branch)

(In acre-feet)

**November 2002**

Reach No.	Operating Pool			Turnout	Total Diversions	Deliveries						
	Beginning and Ending					Entitlement	Recovery of Pump In	Other 1/	Pump in Recovery	Purchase Pool B		
	No.	Structure	Mile									
31A	C-1	Coastal Branch Control	0.02		3,802	1,414						
		Las Perillas Pumping Plant	1.16		3,802							
	C-2		3.79	Green Valley Water District	0							
		Badger Hill Pumping Plant	4.27		3,802							
	C-3	Coastal Check No. 3	7.21									
	C-4		9.34	Castaic Lake WA (Devil's Den WD #1)	1,414							
		Coastal Check No. 4	9.34									
	C-5	Coastal Check No. 5	12.20									
	C-6		13.30	Kern County Water Agency Berrenda Mesa - 3	3		3					
			14.83	Kern County Water Agency Berrenda Mesa - 1	287		287					
				Kern County Water Agency Berrenda Mesa - PO	0							
		Devil's Den Pumping Plant	14.86		2,100							
				K.C.W.A. Reach 31A Subtotal:	290	290	0	0	0	0		
				K.C.W.A. Total:	11,703	2,650	0	3,408	5,645	0		
33A	C-7	Bluestone Pumping Plant	19.05		1,991	1,851						
	C-8	Polonio Pass Pumping Plant	26.54		2,089							
	C-9	Tank Site 1	27.81	(CCWA) Polonio Pass Treatment Plant								
	C-10	Shandon T.O.	38.23	Santa Barbara County (CCWA)	1,851							
		Tank Site 2	58.63	Central Coast:	0							
34	C-11	Chorro Valley T.O.	69.31	San Luis Obispo County (CCWA)	225	225						
		Energy Dissipater	78.12									
	Lopez T.O.		85.86	SLOCFC & WCD	0							
35	C-12			CCWA Total:	2,076	2,076	0	0	0	0		
		Guadalupe T.O.	102.70	SBCFC & WCD	0							
		Santa Maria T.O.	107.43	SBCFC & WCD	0							
		So. Cal. Water T.O.	109.20	SBCFC & WCD	0		0	0	0	0		
38				SBCFC & WCD Total:	0							
		Tank Site 5	115.42									

1/ Castaic WA water sent for storage in Semitropic WA.

**Table 24. Southern Field Division Plant Data**

(in acre-feet)

November 2002

Date	West Branch					East Branch							
	Oso Pumping Plant	Warne Powerplant		Castaic Powerplant		Alamo Powerplant			Pearblossom Pumping Plant	Mojave Siphon Powerplant			Devil Canyon Powerplant Generation
		Generation	Leakage	Generation	Pumpback	Generation	Bypass Through Plant	Cottonwood Chute		Generation	Leakage	Bypass Flume	
1	1,272	1,902	0	2,885	0	0	0	2,281	2,076	2,156	0	0	2,397
2	2,078	1,625	0	450	0	0	0	2,583	2,482	2,439	0	0	2,056
3	2,559	1,300	0	607	506	0	0	3,381	2,923	2,720	0	0	2,120
4	2,925	2,991	0	3,430	572	0	0	1,795	1,942	2,081	0	0	2,284
5	2,550	3,096	0	4,172	1,071	0	0	2,300	1,987	1,954	0	0	2,451
6	2,608	2,920	0	4,167	565	0	0	2,514	2,226	2,206	0	0	2,751
7	2,456	2,921	0	4,555	615	0	0	2,938	2,769	3,072	0	0	2,522
8	2,717	2,870	0	5,477	1,196	0	0	1,084	747	483	0	0	2,332
9	3,253	3,181	0	858	1,981	0	0	3,208	3,437	3,330	0	0	1,925
10	4,171	2,329	0	2,826	3,661	0	0	3,718	3,620	3,452	0	0	1,990
11	1,952	2,301	0	4,963	0	0	0	2,585	2,294	2,262	0	0	2,021
12	1,997	2,663	0	4,963	0	0	0	2,476	2,427	2,717	0	0	2,242
13	2,023	2,364	0	4,263	465	0	0	2,324	2,201	2,097	0	0	2,350
14	2,026	2,394	0	5,615	1,444	0	0	2,634	2,449	2,541	0	0	2,206
15	2,132	2,407	0	4,836	1,188	0	0	2,176	1,974	2,087	0	0	2,291
16	3,290	2,356	0	453	1,171	495	0	1,370	1,867	1,869	0	0	2,180
17	3,462	2,339	0	2,058	3,791	2,972	0	0	2,840	2,411	0	0	2,412
18	2,504	2,605	0	5,973	2,420	2,191	0	109	2,322	2,386	0	0	2,566
19	2,477	2,801	0	3,345	1,995	2,357	0	114	2,483	2,613	0	0	2,673
20	1,769	2,192	0	4,868	0	2,889	0	290	3,003	3,084	0	0	2,803
21	2,383	2,603	0	5,798	883	2,741	0	370	2,933	2,762	0	0	2,652
22	2,619	3,070	0	8,000	706	2,335	0	94	2,394	2,667	0	0	2,714
23	3,533	2,889	0	973	512	2,893	0	0	2,840	2,788	0	0	2,645
24	4,046	3,117	0	727	2,503	3,654	0	80	3,111	3,223	0	0	2,828
25	2,502	2,689	0	7,129	1,506	2,383	0	74	2,600	2,368	0	0	2,668
26	2,305	2,781	0	7,293	0	2,331	0	139	2,405	2,216	0	0	2,264
27	2,171	2,716	0	6,619	1,289	2,260	0	142	2,151	2,654	0	0	2,269
28	3,963	2,736	0	1,304	1,357	2,457	0	0	2,259	2,100	0	0	2,456
29	2,398	2,742	0	2,133	1,064	2,161	0	107	2,172	2,325	0	0	2,324
30	2,598	2,674	0	0	1,439	2,610	0	0	2,383	2,374	0	0	2,203
Total	78,739	77,574	0	110,740	33,900	36,729	0	40,886	73,317	73,437	0	0	71,595

**Table 25. Pyramid Lake**  
Daily Operation

Capacity: 171,200 ac-ft

(in acre-feet except as noted)

**November 2002**

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow			Computed Losses (-) And Gains (+)
				Project		Natural	Project		Natural	
				Castaic Powerplant Pumpback	Warne Powerplant	Stream Flow	Castaic Powerplant Generation	Deliveries 1/	To Piru Creek	
Oct 31	2572.46	162,847								
1	2571.68	161,870	-977	0	1,902	14	2,885	14	13	19
2	2572.57	162,986	1,116	0	1,625	14	450	14	13	-46
3	2573.45	164,093	1,107	506	1,300	14	607	12	15	-79
4	2573.51	164,169	76	572	2,991	14	3,430	10	14	-47
5	2573.42	164,056	-113	1,071	3,096	14	4,172	8	14	-100
6	2572.82	163,300	-756	565	2,920	15	4,167	6	12	-71
7	2572.02	162,296	-1,004	615	2,921	16	4,555	4	17	20
8	2570.92	160,921	-1,375	1,196	2,870	31	5,477	2	14	21
9	2574.37	165,257	4,336	1,981	3,181	22	858	1	12	23
10	2576.77	168,318	3,061	3,661	2,329	19	2,826	0	12	-110
11	2574.65	165,612	-2,706	0	2,301	19	4,963	0	12	-51
12	2572.79	163,262	-2,350	0	2,663	17	4,963	0	12	-55
13	2571.60	161,770	-1,492	465	2,364	17	4,263	0	12	-63
14	2570.13	159,939	-1,831	1,444	2,394	17	5,615	0	12	-59
15	2569.07	158,628	-1,311	1,188	2,407	16	4,836	1	12	-73
16	2571.54	161,695	3,067	1,171	2,356	16	453	0	12	-11
17	2574.67	165,638	3,943	3,791	2,339	16	2,058	0	12	-133
18	2573.90	164,662	-976	2,420	2,605	16	5,973	0	12	-32
19	2574.97	166,019	1,357	1,995	2,801	16	3,345	0	12	-98
20	2572.89	163,388	-2,631	0	2,192	16	4,868	0	12	41
21	2570.97	160,984	-2,404	883	2,603	16	5,798	0	12	-96
22	2567.48	156,673	-4,311	706	3,070	16	8,000	0	12	-91
23	2569.40	159,035	2,362	512	2,889	17	973	0	12	-71
24	2573.31	163,917	4,882	2,503	3,117	17	727	0	12	-16
25	2570.92	160,921	-2,996	1,506	2,689	17	7,129	0	12	-67
26	2567.20	156,330	-4,591	0	2,781	17	7,293	0	12	-84
27	2564.98	153,630	-2,700	1,289	2,716	17	6,619	0	12	-91
28	2567.25	156,391	2,761	1,357	2,736	17	1,304	0	12	-33
29	2568.56	157,999	1,608	1,064	2,742	17	2,133	0	12	-70
30	2571.82	162,045	4,046	1,439	2,674	17	0	0	12	-72
Total				-802	33,900	77,574	507	110,740	72	376
										-1,595

1/ Includes 1 AF recreation and 71 AF entitlement to United Water Conservation District.

**Table 26. Elderberry Forebay**

Daily Operation

(in acre-feet except as noted)

Capacity: 32,476 ac-ft

**November 2002**

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow		Outflow			Computed Losses (-) And Gains (+)	
				Castaic Powerplant Generation	Natural	Castaic Powerplant Pumpback	To Castaic Lake			
							Natural	Project		
Oct 31	1514.86	21,103								
1	1521.51	23,888	2,785	2,885	0	0	0	0	-100	
2	1515.57	21,392	-2,496	450	0	0	0	2,947	1	
3	1515.73	21,458	66	607	0	506	0	0	-35	
4	1515.09	21,197	-261	3,430	0	572	0	3,117	-2	
5	1515.40	21,323	126	4,172	0	1,071	0	2,976	1	
6	1517.00	21,980	657	4,167	0	565	0	2,944	-1	
7	1518.78	22,724	744	4,555	0	615	0	3,197	1	
8	1522.18	24,178	1,454	5,477	0	1,196	0	2,827	0	
9	1512.43	20,131	-4,047	858	0	1,981	0	2,923	-1	
10	1504.23	17,029	-3,102	2,826	0	3,661	0	2,268	1	
11	1508.67	18,676	1,647	4,963	0	0	0	3,315	-1	
12	1520.68	23,531	4,855	4,963	0	0	0	0	-108	
13	1521.49	23,879	348	4,263	0	465	0	3,450	0	
14	1523.45	24,732	853	5,615	0	1,444	0	3,319	1	
15	1525.22	25,513	781	4,836	0	1,188	0	2,866	-1	
16	1516.16	21,634	-3,879	453	0	1,171	0	3,163	2	
17	1511.89	19,919	-1,715	2,058	0	3,791	0	0	18	
18	1520.36	23,394	3,475	5,973	0	2,420	0	0	-78	
19	1514.54	20,974	-2,420	3,345	0	1,995	0	3,771	1	
20	1516.87	21,926	952	4,868	0	0	0	3,915	-1	
21	1519.30	22,943	1,017	5,798	0	883	0	3,898	0	
22	1525.65	25,704	2,761	8,000	0	706	0	4,533	0	
23	1519.98	23,232	-2,472	973	0	512	0	2,934	1	
24	1515.81	21,490	-1,742	727	0	2,503	0	0	34	
25	1521.09	23,707	2,217	7,129	0	1,506	0	3,404	-2	
26	1530.96	28,127	4,420	7,293	0	0	0	2,874	1	
27	1533.39	29,271	1,144	6,619	0	1,289	0	4,187	1	
28	1525.73	25,740	-3,531	1,304	0	1,357	0	3,478	0	
29	1528.04	26,781	1,041	2,133	0	1,064	0	0	-28	
30	1516.50	21,773	-5,008	0	0	1,439	0	3,567	-2	
Total				670	110,740	0	33,900	0	75,873	
									-297	

**Table 27. Castaic Lake**

Daily Operation

(in acre-feet except as noted)

Capacity: 323,699 ac-ft

**November 2002**

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow		Outflow		Computed Losses (-) And Gains (+)	
				From Elderberry Forebay		Natural	Deliveries		
				Natural	Project				
Oct 31	1493.15	277,009							
1	1491.73	274,122	-2,887	0	0	0	2,381	0	
2	1492.06	274,791	669	0	2,947	0	2,225	99	
3	1490.92	272,479	-2,312	0	0	0	2,114	101	
4	1491.41	273,474	995	0	3,117	0	2,030	100	
5	1491.82	274,304	830	0	2,976	0	2,070	97	
6	1492.67	276,031	1,727	0	2,944	0	1,189	0	
7	1494.17	279,093	3,062	0	3,197	0	78	0	
8	1495.02	280,838	1,745	0	2,827	0	1,436	0	
9	1495.54	281,908	1,070	0	2,923	0	1,898	0	
10	1495.82	282,485	577	0	2,268	0	1,787	0	
11	1496.45	283,787	1,302	0	3,315	0	1,873	0	
12	1495.55	281,929	-1,858	0	0	0	1,931	0	
13	1496.19	283,249	1,320	0	3,450	0	2,000	0	
14	1496.74	284,387	1,138	0	3,319	0	2,078	0	
15	1497.08	285,092	705	0	2,866	0	2,066	0	
16	1497.68	286,338	1,246	0	3,163	0	2,006	0	
17	1496.66	284,221	-2,117	0	0	0	2,094	0	
18	1495.58	281,990	-2,231	0	0	0	2,221	0	
19	1496.27	283,414	1,424	0	3,771	0	2,362	0	
20	1496.96	284,843	1,429	0	3,915	0	2,355	0	
21	1497.65	286,275	1,432	0	3,898	1	2,415	0	
22	1498.56	288,171	1,896	0	4,533	0	2,427	0	
23	1498.89	288,860	689	0	2,934	1	2,384	0	
24	1497.81	286,608	-2,252	0	0	0	2,211	0	
25	1498.38	287,796	1,188	0	3,404	1	2,172	0	
26	1498.64	288,338	542	0	2,874	0	2,136	0	
27	1499.39	289,907	1,569	0	4,187	0	2,120	0	
28	1499.99	291,165	1,258	0	3,478	1	2,456	0	
29	1498.88	288,840	-2,325	0	0	0	2,345	0	
30	1499.70	290,557	1,717	0	3,567	0	2,059	0	
Total			13,548	0	75,873	4	60,919	397	
								-1,013	

**Table 28. Governor Edmund G. Brown California Aqueduct**  
 Southern Field Division, Monthly Deliveries (West Branch)

(In acre-feet)

**November 2002**

Reach No.	Operating Pool			Turnout	Total Diversions	Deliveries						
	Beginning and Ending					Entitlement	Rec.	Local	Advanced Entitlement	Flexible Payback		
	No.	Structure	Mile									
29A	42	Oso Pumping Plant	1.49		78,739							
29F	W2	Quail Lake	5.02	Antelope Valley-East Kern Water Agency	Re-moved	69	1					
		Quail Lake Embankment	7.82	Antelope Valley-East Kern Water Agency	Stub							
29G		Warne Power Plant	14.07		77,574							
29H	W3	Pyramid Lake		Calif. State Park Pyramid Recreation	1	13,242	25			10,000		
			14.10	United Water Conservation Dist.	69							
		Pyramid Dam	17.10	Piru Creek Fish Enhancement	0							
29J	W4	Castaic Power Plant	25.82	( 33,900 AF pumpback )	110,740	44,871						
		Elderberry Forebay										
		Forebay Dam	28.12									
30 1/	W5	Castaic Lake		Calif. State Park Castaic Lake Recreation	25	1,380	1,247					
		Castaic Dam	31.47									
		Castaic Lake Outlet	31.55	MWD - 78"	13,242							
				MWD - 132"	44,871							
				Castaic Lake WA - T1	1,380							
				Castaic Lake WA	1,247							
				United Water Conservation Dist.	0							
				MWD - Ventura County FCD	154							
				LA Co. Parks & Recreation	0							
				Releases to Lagoon	397							
				Reach 30 Subtotal:	60,919	13,242	60,894	25	0	10,000		
	W6	Castaic Lagoon		Recreation to Lagoon	397	154		397				
		Castaic Lagoon Outlet	31.87									

1/ Reach 30 actually terminates at mile 31.50. It is shown here as including the outlet works at mile 31.55.

All deliveries from the outlet works and from the Lagoon are billed to Reach 30.

**Table 29. Silverwood Lake**

Daily Operation  
(in acre-feet except as noted)

Capacity: 74,970 ac-ft

**November 2002**

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow				Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River	
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel			
Oct 31	3350.32	70,478										
1	3350.32	70,478	0	2,156	0	0	7	0	2,397	0	0	248
2	3350.71	70,846	368	2,439	0	0	6	0	2,056	0	0	-9
3	3350.93	71,055	209	2,720	0	0	5	0	2,120	0	1	-385
4	3350.48	70,629	-426	2,081	0	0	5	0	2,284	0	0	-218
5	3350.24	70,403	-226	1,954	0	0	6	0	2,451	0	0	277
6	3349.65	69,847	-556	2,206	0	0	4	1	2,751	0	1	-5
7	3350.31	70,469	622	3,072	0	0	7	0	2,522	0	0	79
8	3348.29	68,577	-1,892	483	0	0	5	0	2,332	0	0	-38
9	3348.99	69,229	652	3,330	0	0	0	0	1,925	0	1	-752
10	3349.79	69,979	750	3,452	0	0	11	0	1,990	0	0	-701
11	3350.39	70,544	565	2,262	0	0	6	0	2,021	0	0	330
12	3351.85	71,930	1,386	2,717	0	0	5	1	2,242	0	1	918
13	3351.55	71,644	-286	2,097	0	0	6	0	2,350	0	0	-27
14	3351.83	71,911	267	2,541	0	0	6	0	2,206	0	0	-62
15	3351.66	71,749	-162	2,087	0	0	5	0	2,291	0	1	48
16	3351.23	71,340	-409	1,869	0	0	5	0	2,180	0	0	-93
17	3351.31	71,416	76	2,411	0	0	4	0	2,412	0	0	81
18	3351.16	71,273	-143	2,386	0	0	4	1	2,566	0	1	43
19	3350.99	71,112	-161	2,613	0	0	5	0	2,673	0	0	-96
20	3351.31	71,416	304	3,084	0	0	5	0	2,803	0	0	28
21	3351.45	71,549	133	2,762	0	0	5	0	2,652	0	1	29
22	3351.39	71,492	-57	2,667	0	0	5	0	2,714	0	0	-5
23	3351.54	71,634	142	2,788	0	0	5	0	2,645	0	0	4
24	3351.91	71,987	353	3,223	0	0	5	0	2,828	0	1	-36
25	3351.65	71,739	-248	2,368	0	0	4	1	2,668	0	0	57
26	3351.52	71,615	-124	2,216	0	0	6	0	2,264	0	0	-70
27	3351.86	71,939	324	2,654	0	0	5	0	2,269	0	1	-55
28	3351.53	71,625	-314	2,100	0	0	6	0	2,456	0	0	48
29	3351.62	71,710	85	2,325	0	0	5	0	2,324	0	0	89
30	3351.79	71,873	163	2,374	0	0	6	0	2,203	0	1	-1
Total				1,395	73,437	0	159	4	71,595	0	10	-274
1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.												

**Table 30. Lake Perris**

Daily Operation

(in acre-feet except as noted)

Capacity: 131,452 ac-ft

**November 2002**

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow 1/	Outflow 2/	Computed Losses (-) Gains (+) 1/
Oct 31	1583.79	117,331				
1	1583.87	117,509	178		9	
2	1583.97	117,726	217		10	
3	1584.01	117,821	95		9	
4	1584.07	117,955	134		9	
5	1584.19	118,223	268		9	
6	1584.24	118,334	111		18	
7	1584.35	118,580	246		103	
8	1584.51	118,937	357		19	
9	1584.65	119,251	314		19	
10	1584.72	119,407	156		10	
11	1584.76	119,497	90		10	
12	1584.81	119,609	112		10	
13	1584.94	119,901	292		10	
14	1585.06	120,170	269		10	
15	1585.21	120,507	337		51	
16	1585.43	121,002	495		10	
17	1585.75	121,723	721		11	
18	1586.18	122,694	971		10	
19	1586.40	123,193	499		11	
20	1586.85	124,214	1,021		10	
21	1587.18	124,966	752		10	
22	1587.38	125,423	457		10	
23	1587.46	125,606	183		10	
24	1587.65	126,040	434		10	
25	1587.86	126,521	481		10	
26	1587.65	126,040	-481		10	
27	1587.66	126,063	23		10	
28	1587.59	125,903	-160		12	
29	1587.62	125,972	69		10	
30	1587.65	126,040	68		10	
Total			8,709	11,679	460	-2,510

1/ Readings are not taken on a daily basis. End of month only.

2/ Includes deliveries to MWD from Reach 28J and recreation water to California State Park at lake Perris.

**Table 31a. Governor Edmund G. Brown California Aqueduct**  
 Southern Field Division, Monthly Deliveries (East Branch)

(In acre-feet)

**November 2002**

Reach No.	Operating Pool			Turnout	Total Diversions	Deliveries						
	Beginning and Ending					Entitlement	Rec.	Transfer 1/	Dry Year Purchase	Transfer Local Out		
	No.	Structure	Mile									
17E	40	Edmonston Pumping Plant	293.45		156,915							
	41		298.65	Kern County Water Agency Tej.-Cas	Stub							
17F		Check No. 41	303.41									
18A	42	Check No. 42	304.99									
19	43	Alamo Powerplant	305.73	(Does not include 40,886 AF flow down Cottonwood Chute)	36,729							
			308.05	Antelope Valley-East Kern WA	0							
		Check No. 43	309.70									
	44		311.84	LADWP Connection	0							
			313.50	AVEK 245th Street West	0							
		Check No. 44	314.81									
	45		314.93	AVEK 235th Street West	0							
			315.57	AVEK 225th Street West	0							
		Check No. 45	319.74									
	46		323.19	Antelope Valley-East Kern WA Fairmont	462		385	77				
		Check No. 46	323.84									
				Reach 19 Total:	462		385	0	77	0		
20A	47	Check No. 47	326.77				54	2,063	27	1,224		
	48		326.91	Antelope Valley-East Kern WA Willow Springs Siphon	54							
			329.65	Antelope Valley-East Kern WA 120th Street West	Removed							
		Check No. 48	330.82									
	49	Check No. 49	335.93									
	50		336.73	AVEK WA - Quartz Hill (Wheeled for Palmdale WD)	0							
				Antelope Valley-East Kern WA	2,063							
			339.68	Antelope Valley-East Kern WA	27							
20B		Check No. 50	341.51				9	69	1,224			
	51	Check No. 51	342.07									
	52		342.80	Antelope Valley-East Kern WA 30th Street West	Not in Use							
		Check No. 52	343.74									
	53		346.98	PWD Palmdale	1,233							
			348.14	Antelope Valley-East Kern WA Acton Treatment Plant	69							
21		Check No. 53	348.17				7	221	1,224			
	54	Check No. 54	350.25									
	55	Check No. 55	352.70									
	56	Check No. 56	354.76									
			354.97	Littlerock Creek I.D.	0							
22A	57	Check No. 57	356.93				7	221	1,224			
			357.60	Antelope Valley-East Kern WA	7							
	58		357.72	Antelope Valley-East Kern WA 96th Street East	0							
			359.82	Antelope Valley-East Kern WA East Side Treatment Plant	221							

1/ AVEK transferred this water to Mojave Water Agency.

**Table 31b. Governor Edmund G. Brown California Aqueduct**

Southern Field Division, Monthly Deliveries (East Branch, Continued)

(In acre-feet)

**November 2002**

Reach No.	Operating Pool			Turnout	Total Diversions	Deliveries						
	Beginning and Ending					Entitlement	Recreation	Ex-change	Local	Flexible Payback		
	No.	Structure	Mile									
22B	58	Pearblossom Pumping Plant	360.61		73,317	22						
	59	Check No. 59	366.09									
	60		366.50	Antelope Valley-East Kern WA	22							
		Check No. 60	373.94									
	61	Check No. 61	379.00									
	62	Check No. 62	384.26									
	63	Check No. 63	389.20	Mojave Water Agency Mojave River	2		2					
			394.60	Mojave Water Agency Temporary	134		134					
	64	Check No. 64	395.10									
	65	Check No. 65	400.32									
	66		401.10	Mojave Water Agency Morongo 24" and 42"	115							
				Mojave Water Agency Hesperia	0							
23	Check No. 66	403.41										
	Mojave Siphon	405.48	Las Flores Ranch	0						0		
24	Mojave Siphon Powerplant	405.65			73,437	159						
		407.65	Crestline Lake Arrowhead Water Agency	159								
25	Silverwood Lake		Calif. State Park Silverwood Agency (Rec.)	0		159						
					71,595							
26A	San Bernardino Tunnel	411.46	San Gorgonio Pass Water Agency	0		27,687						
					71,595							
28G	Devil Canyon Powerplant	412.73	MWD-SC Rialto	27,687		27,687						
			Desert Water Agency (MWD Wheeling Exchange)	2,905								
			San Gabriel Valley Water District	614								
			Coachella Valley WD (MWD Wheeling Exchange)	1,763								
			San Bernardino Valley MWD 24" and 72"	5,359								
			San Bernardino Valley MWD 48"	130								
			MWD (SBVMWD Exchange)	0								
					1,800							
28H	Santa Ana Valley Pipeline	425.46				4,919						
		433.06	MWD-SC Box Springs	4,919								
28J	Lake Perris	440.05	MWD-SC Perris Bypass Pipeline	16,689		16,689						
		442.00	MWD-SC 18"	292								
		443.44	MWD-SC 54"	47								
			MWD-SC 78"	98								
			Calif. State Park Lake Perris Recreation	0								
			MWD Total:	114,047								
					13,342							

**Table 32. Water Quality At Selected SWP Locations**

November 2002

Constituent	Units	Thermalito Afterbay At Outlet	North Bay Aqueduct Barker Slough Pumping Plant	Banks Pumping Plant	Delta Mendota Canal At McCabe Rd.	California Aqueduct				Devil Canyon Afterbay Near San Bernardino
						O'Neill Forebay Outlet (Check 13)	Kettleman City (Check 21)	Near Hwy 119 (Check 29)	Tehachapi Afterbay (Check 41)	
Alkalinity	mg/l as CaCO <sub>3</sub>	50.5	90	83	82	90	90	89	88	82
Antimony	mg/l	NR	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	NR	NR
Arsenic	mg/l	<0.001	0.001	0.003	0.003	0.003	0.003	0.002	0.003	0.003
Beryllium	mg/l	NR	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Boron	mg/l	<0.1	0.1	0.2	0.3	0.2	0.2	0.2	0.2	0.2
Bromide	mg/l	NR	0.03	0.37	0.27	0.32	0.32	0.34	0.39	0.36
Calcium	mg/l	10	15	19	30	23	21	21	21	20
Carbon - Dissolved Organic	mg/l as C	NR	2	2	3	3	3	2	2	2
Carbon - Total Organic	mg/l as C	NR	5	4	4	3	3	3	3	3
Chloride	mg/l	1	15	134	120	101	110	124	113	115
Chromium	mg/l	0.002	0.003	0.005	0.006	0.004	0.004	0.003	0.004	0.005
Copper	mg/l	<0.001	0.001	0.002	0.002	0.002	0.002	0.001	0.002	0.003
Fluoride	mg/l	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1
Hardness	mg/l as CaCO <sub>3</sub>	40	79.5	109.5	145.5	116	114.5	110.5	103	108.5
Iron	mg/l	<0.005	<0.005	0.011	0.008	0.006	<0.005	<0.005	<0.005	<0.005
Lead	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Magnesium	mg/l	4	10.5	15	17.5	14.5	15	14.5	15	15
Manganese	mg/l	<0.005	0.008	0.016	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Nitrate + Nitrite	mg/l as N	<0.01	0.24	0.30	NR	NR	0.45	NR	0.61	0.38
Phosphorus-Ortho	mg/l as P	<0.01	0.07	0.07	NR	NR	0.08	NR	0.07	0.08
Phosphorus-Total	mg/l	<0.01	0.14	0.09	NR	NR	0.09	NR	0.09	0.09
Selenium	mg/l	NR	<0.001	0.002	NR	NR	NR	<0.001	NR	NR
Sodium	mg/l	4	17	70.5	84	66	67	70.5	70.5	71
Specific Conductance	µS/cm	101	245	652	618	585	603	675	636	601
Sulfate	mg/l	2	13	35	44.25	44.5	38.5	38	38	35
Total Dissolved Solids	mg/l	60	147	398	380	352.5	368	411.5	384	373
Turbidity	NTU	2	19.5	9.75	9	4	4	2	4	<1
Zinc	mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005

mg/l milligrams per liter

µg/l micrograms per liter

µS/cm microSiemens per centimeter

NR - Not Reported

NTU - nephelometric turbidity units

**Table 33. Water Quality At Selected Delta Stations**

**November 2002**

Date	Tides (feet above mean sea level)		Flow In CFS		Electrical Conductivity in millSiemens/cm									Cl in mg/l		
	(Antioch) Daily Mean		Net Delta Outflow Index		Rio Vista	Antioch	Chippis island	Emmaton		Jersey Point		Clifton Court	Cache Slough	Delta Mendota Canal	Contra Costa Canal Intake	
	Mean Daily	Monthly Average	md	md				md	14dm	md	14dm					
	Hi	Half	md	md	md	md	md	14dm	md	14dm	md	md	md	md	md	
38	1	2.37	0.79	4,528	4,528	5,093	4.52	11.67	1.95	2.17	1.42	1.51	0.53	0.82	0.51	193
	2	2.40	0.73	4,608	4,568	5,156	5.00	11.66	2.13	2.20	1.44	1.52	0.59	0.80	0.51	195
	3	2.82	0.86	4,221	4,453	5,121	5.26	12.25	2.41	2.25	1.54	1.53	0.58	0.78	0.51	195
	4	3.11	1.03	4,824	4,545	5,189	5.12	12.90	2.68	2.31	1.75	1.55	0.53	0.80	0.50	193
	5	3.20	0.97	5,724	4,781	5,415	5.69	13.01	2.53	2.31	1.71	1.57	0.52	0.74	0.51	197
	6	3.41	1.10	7,135	5,173	5,825	5.83	12.84	2.58	2.32	1.75	1.59	0.56	0.67	0.49	190
	7	3.84	1.59	5,708	5,250	5,975	7.07	14.51	3.59	2.43	2.16	1.63	0.57	0.69	0.52	183
	8	4.26	2.33	12,863	6,201	9,301	7.58	15.53	3.65	2.53	2.58	1.70	0.52	0.30	0.49	188
	9	3.66	1.89	24,120	8,192	12,198	6.37	12.89	2.19	2.47	1.82	1.70	0.51	0.39	0.54	183
	10	3.04	1.62	26,405	10,014	12,273	4.84	10.92	1.60	2.41	1.43	1.69	0.52	0.47	0.58	175
	11	2.28	1.08	22,936	11,188	12,473	3.46	8.28	0.85	2.30	1.07	1.65	0.56	0.57	0.53	180
	12	2.13	0.79	20,770	11,987	12,994	2.93	7.51	0.71	2.19	0.95	1.61	0.56	0.66	0.50	180
	13	2.21	0.74	13,820	12,128	9,990	2.75	7.53	0.59	2.09	0.93	1.57	0.55	0.71	0.49	177
	14	2.24	0.68	5,809	11,677	7,752	2.68	7.43	0.60	2.00	0.91	1.53	0.56	0.75	0.48	185
	15	2.17	0.55	4,897	11,225	7,214	2.42	7.25	0.67	1.91	0.90	1.50	0.56	0.74	0.51	173
	16	2.45	0.68	3,998	10,773	6,674	2.65	8.21	0.74	1.81	0.93	1.46	0.53	0.74	0.51	177
	17	2.56	0.75	3,488	10,344	6,279	2.92	9.05	0.72	1.69	0.96	1.42	0.53	0.77	0.57	182
	18	2.70	0.80	3,476	9,963	6,027	3.44	9.20	0.94	1.57	1.03	1.37	0.53	0.78	0.57	183
	19	2.71	0.74	4,245	9,662	5,700	3.63	9.52	1.06	1.46	1.05	1.32	0.52	0.79	0.52	180
	20	2.84	0.87	2,637	9,311	5,382	4.00	9.84	1.36	1.38	1.13	1.28	0.53	0.78	0.50	172
	21	3.13	1.11	3,317	9,025	5,141	4.46	10.81	1.79	1.25	1.29	1.21	0.52	0.76	0.51	173
	22	3.45	1.36	3,664	8,782	4,675	5.33	12.52	2.59	1.17	1.56	1.14	0.52	0.76	0.50	175
	23	3.34	1.49	4,008	8,574	5,068	5.26	12.79	2.38	1.19	1.58	1.12	0.54	0.79	0.51	168
	24	2.96	1.21	4,073	8,386	5,074	4.67	11.17	1.76	1.20	1.39	1.12	0.55	0.82	0.54	168
	25	2.73	1.12	3,973	8,210	4,896	4.44	10.55	1.71	1.26	1.34	1.14	0.57	0.81	0.51	167
	26	2.54	1.00	3,895	8,044	4,721	4.39	10.52	1.86	1.34	1.34	1.17	0.60	0.82	0.52	162
	27	2.22	0.90	3,816	7,887	4,753	4.48	10.76	1.93	1.44	1.26	1.19	0.61	0.81	0.53	158
	28	2.16	0.77	3,761	7,740	4,734	4.54	11.02	2.05	1.54	1.20	1.21	0.60	0.82	0.55	162
	29	2.59	0.90	3,854	7,606	4,559	4.89	11.73	2.38	1.66	1.33	1.24	0.55	0.82	0.53	162
	30	2.83	0.96	3,517	7,470	4,456	5.26	12.47	2.51	1.79	1.46	1.28	0.54	0.83	0.53	163

Clifton Court Cl(mg/l)=200X EC - 25

e = Estimated

N.R. = No Record.

N.C. = Not computed due to insufficient data.

f = Excess Delta conditions with fish concerns.

r = Excess delta conditions with export/inflow ratio concerns.

s = Balanced water conditions with storage withdrawals.

dm = Daily Mean

md = Mean Daily

**Table 34. Pesticides, Herbicides, and Other Organic Substances Detected In the SWP**

**November 2002**

Sampling Location	Sample Date 1/	Chemical Detected	Concentration µg/l 2/
North Bay Aqueduct At Barker Slough Pumping Plant	September 18, 2002	2,4-D	0.32
	September 18, 2002	Styrene	0.7
	September 18, 2002	2,4-Dichlorophenylacetic acid (DCAA)	0.99
California Aqueduct At Banks Pumping Plant	September 18, 2002	2,4-D	0.22
	September 18, 2002	Styrene	0.8
	September 18, 2002	2,4-Dichlorophenylacetic acid (DCAA)	0.89
O'Niell Forebay Outlet Check 13	September 18, 2002	2,4-Dichlorophenylacetic acid (DCAA)	0.87
	September 18, 2002	2,4-D	0.17
Delta Mendota Canal At McCabe Road	September 18, 2002	2,4-D	0.18
	September 18, 2002	2,4-Dichlorophenylacetic acid (DCAA)	0.96
California Aqueduct Near Kettleman City (Check 21)	September 17, 2002	2,4-Dichlorophenylacetic acid (DCAA)	0.97
	September 17, 2002	2,4-D	0.11
California Aqueduct At Near Highway 119 (Check 29)	September 24, 2002	2,4-Dichlorophenylacetic acid (DCAA)	1.00
	September 24, 2002	2,4-D	0.11
California Aqueduct At Tehachapi Afterbay (Check 41)	September 18, 2002	2,4-Dichlorophenylacetic acid (DCAA)	0.83
	September 18, 2002	Chlorpyrifos	0.1

1/ Locations are normally sampled during March, June, and September. Monthly reports will include data for the month in which samples were most recently taken.

2/ Micrograms per liter.

**Table 35. Oroville and Delta Field Divisions Energy Data**

(in kWh)

**November 2002**

Date	Oroville Thermalito Complex		Barker Slough Pumping Plant	Cordelia Pumping Plant Load	Banks Pumping Plant		South Bay Pumping Plant Load	Del Valle Pumping Plant Load
	Generation	Load			Total Load	SWP Load		
1	2,372,256	0	10,143	12,124	2,301,696	1,083,696	1,065	186
2	2,300,544	0	14,182	15,421	806,400	806,400	64,960	191
3	2,515,392	0	17,388	19,810	1,095,744	1,095,744	131,155	210
4	2,511,648	0	25,116	21,728	2,054,976	836,976	138,080	206
5	2,503,296	288	32,249	26,096	1,936,896	718,896	130,950	238
6	2,380,320	0	33,964	36,344	903,552	903,552	147,310	253
7	2,467,584	0	29,554	34,454	901,632	901,632	154,360	252
8	2,210,112	0	21,280	28,931	900,480	900,480	180,150	223
9	2,116,512	0	18,683	28,854	853,440	853,440	181,500	264
10	2,501,568	0	19,593	29,624	880,896	880,896	181,505	249
11	2,162,592	0	21,301	27,496	1,579,584	1,579,584	163,250	256
12	2,532,672	0	27,370	30,597	2,164,800	2,164,800	155,140	239
13	2,318,688	0	22,386	29,407	2,816,832	2,816,832	169,205	244
14	2,470,176	0	19,026	27,265	3,048,960	3,048,960	155,640	236
15	2,326,752	288	19,985	27,384	3,269,760	3,269,760	141,450	232
16	2,334,528	0	21,238	32,060	3,067,392	3,067,392	121,840	233
17	2,561,184	0	15,456	25,816	3,195,264	3,195,264	110,270	264
18	2,656,800	0	19,817	29,456	2,718,528	2,718,528	45,705	246
19	2,987,136	0	21,343	30,443	2,291,328	2,291,328	27,395	240
20	2,869,920	288	24,710	31,283	2,523,072	2,523,072	27,390	237
21	2,552,256	864	20,062	29,904	2,015,808	2,015,808	27,455	238
22	1,922,976	2,592	25,578	31,976	1,652,928	1,652,928	27,495	239
23	1,169,280	3,168	23,380	31,913	1,664,448	1,664,448	27,470	241
24	1,584,576	2,592	22,239	30,023	1,468,800	1,468,800	27,500	252
25	2,144,160	864	22,953	32,221	1,375,104	1,375,104	27,485	251
26	2,569,824	0	27,076	34,692	1,263,360	1,263,360	20,765	253
27	2,726,496	0	25,466	33,145	1,222,848	1,222,848	32,865	273
28	2,490,912	0	27,489	36,288	1,222,080	1,222,080	27,695	264
29	2,822,400	0	26,971	35,511	1,222,080	1,222,080	27,550	262
30	2,689,056	0	25,949	35,014	1,222,656	1,222,656	27,575	269
Total	71,771,616	10,944	681,947	875,280	53,641,344	49,987,344	2,702,175	7,241

**Table 36. San Luis Field Division Energy Data**

(in kWh)

November 2002

Date	Dos Amigos Pumping Plant		Gianelli Pumping-Generating Plant			
	Total Load	SWP Load 1/	Total Generation	SWP Generation 1/	Total Load	SWP Load 1/
1	839,952	839,952	938,016	938,016	1,120,608	-67,392
2	866,016	866,016	779,616	779,616	1,353,888	253,888
3	1,126,656	1,126,656	0	0	2,628,000	-100,000
4	735,696	735,696	0	0	1,148,544	-81,456
5	943,344	943,344	734,112	734,112	1,356,768	-20,232
6	786,096	786,096	1,191,744	1,191,744	1,356,480	-20,520
7	911,520	911,520	1,014,048	1,014,048	1,356,480	-20,520
8	827,136	827,136	0	0	2,269,152	1,198,152
9	833,328	833,328	1,791,648	1,791,648	26,784	26,784
10	1,120,896	1,120,896	0	0	17,856	17,856
11	722,160	650,160	0	0	1,351,584	-25,416
12	721,008	649,008	0	0	1,409,472	32,472
13	745,920	673,920	0	0	2,035,296	658,296
14	769,680	697,680	0	0	2,806,560	1,086,560
15	755,712	683,712	0	0	3,261,888	1,443,888
16	738,720	666,720	0	0	3,324,672	1,702,672
17	963,648	891,648	0	0	4,315,968	1,819,968
18	849,600	777,600	0	0	2,694,240	974,240
19	842,832	770,832	0	0	1,723,680	3,680
20	953,136	854,136	0	0	2,120,256	302,256
21	1,036,224	937,224	0	0	2,930,688	1,121,688
22	946,944	784,944	0	0	2,002,752	193,752
23	1,136,592	974,592	690,624	690,624	1,518,336	3,336
24	1,415,520	1,247,520	0	0	1,312,128	16,128
25	894,960	732,960	1,270,368	1,270,368	1,776,096	-32,904
26	907,200	745,200	472,608	472,608	1,787,040	-21,960
27	987,120	825,120	0	0	1,798,272	-10,728
28	1,114,992	919,992	200,448	200,448	2,001,600	281,600
29	792,000	597,000	249,984	249,984	1,362,816	-14,184
30	970,560	775,560	177,984	177,984	1,179,360	-1,640
Total	27,255,168	24,846,168	9,511,200	9,511,200	55,347,264	10,720,264

1/ Negative values may appear in SWP columns and indicate a mismatch of scheduled CVP energy and actual pumping; adjustments to SWP water shares are made to balance the mismatch.

**Table 37. San Joaquin Field Division Pumping Plant Energy Load Data**

(in kWh)

November 2002

Date	Coastal Branch					California Aqueduct			
	Las Perillas	Badger Hill	Devils Den	Bluestone	Polonio	Buena Vista	Teerink	Chrisman	Edmonston
1	798	640	2,898	2,484	1,422	900,288	998,928	2,242,656	8,186,400
2	798	632	1,800	1,728	1,404	1,150,776	1,285,776	2,897,568	10,595,520
3	820	632	2,340	1,728	1,422	1,434,600	1,597,824	3,618,720	13,456,800
4	1,816	3,920	2,070	1,674	1,404	1,117,512	1,253,232	2,818,944	10,506,960
5	2,460	4,816	1,926	1,710	1,476	1,183,896	1,311,120	2,970,720	11,016,000
6	2,076	3,904	1,134	1,710	1,476	1,270,224	1,440,504	3,244,032	11,761,200
7	2,036	3,840	1,584	1,260	1,548	1,325,016	1,468,800	3,336,768	12,324,240
8	4,152	9,504	1,566	1,674	1,062	946,368	1,007,280	2,267,136	8,551,440
9	3,532	8,320	1,620	1,710	1,494	1,546,776	1,731,744	3,963,456	14,682,240
10	6,558	16,304	1,836	2,880	3,078	1,825,992	2,075,040	4,741,632	17,793,360
11	7,674	20,080	50,436	47,970	50,112	1,127,376	1,242,144	2,810,880	10,236,960
12	16,484	43,776	85,554	81,882	85,140	1,087,632	1,230,264	2,760,480	10,226,880
13	13,428	37,152	58,464	56,772	58,464	1,056,960	1,185,768	2,686,752	9,884,160
14	14,250	37,384	72,846	69,462	71,910	1,154,880	1,241,424	2,818,368	10,661,760
15	9,684	25,824	54,198	51,768	55,206	1,011,384	1,163,376	2,651,904	9,817,200
16	13,254	33,160	83,286	79,038	83,178	1,280,808	1,439,064	3,214,368	11,833,200
17	11,866	31,560	77,130	72,666	77,922	1,561,536	1,705,248	3,926,304	14,537,520
18	10,534	26,176	55,944	54,936	56,448	1,164,240	1,329,768	3,005,856	10,920,960
19	15,082	39,189	78,462	75,168	76,662	1,216,368	1,320,480	2,998,944	11,147,760
20	12,616	32,216	82,062	78,894	81,036	1,232,280	1,359,477	3,071,824	11,437,920
21	15,030	40,520	80,064	77,112	79,776	1,260,613	1,379,808	3,100,320	11,669,760
22	14,724	39,840	79,524	76,680	77,922	1,247,616	1,394,928	3,148,704	11,481,840
23	16,138	46,272	80,712	78,498	79,254	1,541,808	1,726,632	3,928,896	14,654,160
24	17,642	52,008	97,758	92,916	97,614	1,852,056	2,070,000	4,703,616	17,426,160
25	12,904	33,768	50,508	48,438	50,652	1,212,624	1,336,608	3,029,760	11,188,080
26	15,104	42,800	76,770	73,350	75,132	1,155,384	1,281,168	2,902,464	10,780,560
27	12,754	38,392	83,142	80,694	83,484	1,130,688	1,263,096	2,850,048	10,411,920
28	14,044	39,280	80,586	77,526	79,326	1,478,808	1,688,616	3,832,992	14,392,080
29	12,596	34,600	76,518	73,242	75,168	1,139,184	1,296,144	2,899,872	10,568,880
30	11,688	31,688	77,562	74,556	76,482	1,275,264	1,383,408	3,145,536	11,907,360
Total	292,542	778,197	1,500,300	1,440,126	1,486,674	37,888,957	42,207,669	95,589,520	354,059,280

**Table 38. Southern Field Division Energy Data**

(in kWh)

**November 2002**

Date	West Branch			East Branch			
	Oso Pumping Plant Load	Warne Powerplant Generation	Castaic Powerplant SWP Generation	Alamo Powerplant Generation	Pearblossom Pumping Plant Load	Devil Canyon Powerplant Generation	Mojave Siphon Powerplant Generation
1	339,024	1,136,016	1,440,000	0	1,382,388	2,911,968	165,669
2	548,576	935,208	1,440,000	0	1,646,988	2,523,840	188,748
3	674,184	810,576	1,440,000	0	1,929,468	2,628,096	214,956
4	769,552	1,725,624	2,880,000	0	1,294,404	2,767,104	166,467
5	671,048	1,768,536	2,880,000	0	1,325,532	2,960,160	151,158
6	691,376	1,682,784	2,880,000	0	1,481,424	3,184,224	173,754
7	648,984	1,673,568	2,880,000	0	1,825,284	2,988,384	254,373
8	716,296	1,624,608	2,880,000	0	493,248	2,773,632	33,537
9	861,784	1,780,128	2,880,000	0	2,280,396	2,350,080	278,250
10	1,099,504	1,381,464	2,880,000	0	2,410,368	2,440,896	285,180
11	516,880	1,399,032	2,520,000	0	1,531,368	2,483,616	174,006
12	527,240	1,559,952	1,440,000	0	1,615,248	2,728,704	208,803
13	532,616	1,425,096	2,400,000	0	1,468,152	2,868,192	156,849
14	535,920	1,427,544	2,400,000	0	1,633,056	2,682,624	196,665
15	561,456	1,440,720	2,400,000	0	1,311,096	2,761,824	162,120
16	865,256	1,412,568	2,400,000	67,424	1,241,904	2,649,792	146,223
17	911,568	1,364,328	2,400,000	351,680	1,872,936	2,936,928	181,356
18	660,632	1,522,368	2,640,000	253,904	1,552,164	3,101,184	192,612
19	647,920	1,638,648	2,640,000	276,500	1,657,620	3,214,560	204,792
20	466,704	1,327,464	2,640,000	336,896	1,992,384	3,304,320	244,125
21	539,168	1,536,048	2,640,000	316,736	1,946,196	3,166,752	217,539
22	694,232	1,743,984	2,640,000	268,548	1,592,064	3,253,344	214,536
23	927,752	1,666,656	2,640,000	341,264	1,901,100	3,223,008	219,681
24	1,059,408	1,765,224	2,640,000	416,556	2,069,520	3,451,008	259,350
25	654,304	1,587,744	2,880,000	275,912	1,728,384	3,240,000	183,519
26	605,752	1,608,768	1,440,000	269,332	1,620,804	2,771,616	177,072
27	570,528	1,586,448	2,760,000	261,184	1,432,944	2,801,184	211,533
28	1,042,048	1,601,352	2,760,000	289,240	1,501,824	3,036,768	156,933
29	631,288	1,602,936	2,760,000	247,800	1,448,268	2,844,576	173,124
30	687,456	1,563,984	2,760,000	308,896	1,592,952	2,727,264	176,673
Total	20,658,456	45,299,376	74,280,000	4,281,872	48,779,484	86,775,648	5,769,603